



THE JOHNS HOPKINS UNIVERSITY  
BALTIMORE, MARYLAND

*Conferring of Degrees*  
*at the close of the eighty-ninth academic year*



JUNE 8, 1965  
Keyser Quadrangle  
Homewood



# ORDER OF PROCESSION

## *The Graduates*

### *Marshals*

CARL F. CHRIST  
LAWRENCE P. GRAYSON  
JOHN W. GRYDER  
WILLIAM H. HUGGINS  
EDGAR A. J. JOHNSON  
JOSEPH E. JOHNSON

RICHARD A. MACKSEY  
GEORGE E. OWEN  
ROBERT B. POND  
FRANCIS E. ROURKE  
CHARLES M. WYLIE  
THEODORE R. F. WRIGHT

\*

## *The Faculties*

### *Marshals*

ALFRED D. CHANDLER and JOHN WALTON

\*

## *The Deans, The Trustees and Honored Guests*

### *Marshals*

NATHAN EDELMAN and RICHARD H. GREEN

\*

## *The Chaplain*

*The Chairman of the Humanities Group*

*The Presentor of the Honorary Degree Candidates*

*The Honorary Degree Candidates*

*The Chairman of the Board of Trustees*

*The President of the University*

### *Chief Marshal*

CHARLES S. SINGLETON

\*

## *For the Presentation of Diplomas*

### *Marshals*

MAURICE J. BESSMAN  
FREDERICK T. SPARROW

ROBERT L. STRIDER  
W. KELSO MORRILL

\*

The ushers are members of the Student Council of  
The Johns Hopkins University

# ORDER OF EVENTS

*Milton Stover Eisenhower, President of the University, presiding*

\*

## PROCESSIONAL

MARCHE SOLENNELLE — A. MAILLY

*John H. Eltermann, Organist*

*The audience is requested to stand as the Academic Procession moves into the area and to remain standing until after the Invocation and the singing of the University Ode*

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## INVOCATION

*The Very Reverend John N. Peabody*

*Dean of the Episcopal Cathedral of the Incarnation*

\*

THE STAR-SPANGLED BANNER

THE UNIVERSITY ODE

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## GREETINGS

*Charles S. Garland*

*Chairman of the Board of Trustees*

\*

## REMARKS

*J. Hillis Miller*

*Chairman of the Humanities Group*

\*

## CONFERRING OF HONORARY DEGREES

*Kemp Malone      Kent Roberts Greenfield      Harold Fredrik Cherniss*  
*Huntington Cairns      George Boas*

*Presented by Maurice Mandelbaum*

\*

## ADDRESS

*George Boas*

*Professor Emeritus of the History of Philosophy*

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## CONFERRING OF DEGREES ON CANDIDATES

*Presented by Dean G. Heberton Evans, Jr.:*

BACHELORS OF ARTS

*Presented by Dean Robert H. Roy:*

BACHELORS OF ENGINEERING SCIENCE

MASTERS OF SCIENCE IN ENGINEERING • DOCTORS OF ENGINEERING

# ORDER OF EVENTS

## CONFERRING OF DEGREES ON CANDIDATES

*Continued*

*Presented by Dean Richard A. Mumma:*

BACHELORS OF SCIENCE • BACHELORS OF SCIENCE IN NURSING  
BACHELORS OF SCIENCE IN ENGINEERING  
MASTERS OF SCIENCE IN ENGINEERING  
MASTERS OF SCIENCE • MASTERS OF EDUCATION  
MASTERS OF LIBERAL ARTS  
CERTIFICATES OF ADVANCED STUDY IN EDUCATION

*Presented by Dean Ernest L. Stebbins:*

MASTERS OF SCIENCE • DOCTORS OF SCIENCE  
MASTERS OF PUBLIC HEALTH • DOCTORS OF PUBLIC HEALTH

*Presented by Dean Francis O. Wilcox:*

MASTERS OF ARTS  
DOCTORS OF PHILOSOPHY  
SCHOOL OF ADVANCED INTERNATIONAL STUDIES

*Presented by Dean Thomas B. Turner:*

DOCTORS OF MEDICINE

*Presented by Dean G. Heberton Evans, Jr.:*

MASTERS OF ARTS IN TEACHING  
MASTERS OF ARTS • DOCTORS OF PHILOSOPHY

\*

Presentation of the Christian R. and Mary F. Lindback

## AWARDS FOR DISTINGUISHED TEACHING

*The President of the University*

\*

## CHARGE TO GRADUATES

*The President of the University*

\*

## BENEDICTION

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## RECESSIONAL

TRIUMPHAL MARCH — W. FAULKES

*The audience is requested to remain standing after the Benediction  
until the faculties and graduates have left the area.*

The Alumni Association of The Johns Hopkins University invites all graduates, their relatives and friends, and the members of the faculty to attend a reception on Keyser Quadrangle immediately following the Commencement Exercises. In case of rain the reception will be held in Levering Hall.



# ACADEMIC DRESS

THE custom of wearing academic dress stems from the Middle Ages, when scholars were also clerics and wore the costume of their monastic order. The hood was originally a cowl attached to the gown which could be slipped over the head for warmth. The cap, originally round, later became the square mortar-board as we see it today.

Today the cap is the same for all American degrees, although the recipient of a doctoral degree is entitled to wear a gold tassel. The gown varies for the respective degrees. The Bachelor's gown is worn closed and can be distinguished by its long, pointed sleeves. The Master's gown is designed to be open with the arms worn through the slits in the elbows of the sleeves. The Doctor's gown, also worn open, has full, bell-shaped sleeves with three horizontal bars stitched across the upper arm. There is a velvet panel draped around the neck and stitched down the front edges. This velvet trimming may be either black or the same color as the velvet border of the hood.

The hood also varies for the respective degrees. The Bachelor's and Master's hoods are of the same design, pointed at the base. The Bachelor's hood is three feet long; the Master's hood is three and one half feet long. The Doctor's hood is four feet long, of fuller shape and rounded at the base.

The hood is bordered with velvet, the color of which indicates the field of study in which the degree was earned:

Dark blue .....	Philosophy
Light blue .....	Education
Orange .....	Engineering
Gold-yellow .....	Science
Green .....	Medicine
Salmon pink .....	Public Health
Pink .....	Music
Purple .....	Laws
White .....	Arts and Letters

The silk lining of the hood represents the institution which granted the degree. If more than one degree is held, the gown and hood of the higher or highest degree is worn. The linings seen in today's academic procession may include:

BLACK	PURPLE
Black, old gold chevron.....Johns Hopkins	Purple, gold chevron.....Northwestern Purple .....New York University
BLUE	RED
Light blue, white chevron.....Columbia Dark blue.....Yale Blue with white chevron.....Duke Dark blue, two orange chevrons..Illinois Light blue, two white chevrons..North Carolina	Bright red.....Wisconsin Plum, with scarlet.....London Maroon .....Chicago Crimson .....Harvard Carnelian, two white chevrons...Cornell Cardinal .....Stanford Red, tri-chevron in center.....Heidelberg
GOLD	YELLOW
Old gold, maroon chevron.....Minnesota Old gold.....Iowa Gold, blue chevron.....California Gold .....Virginia	Dandelion yellow.....Rochester Maize, azure blue chevron.....Michigan Yellow and white.....Sorbonne

# CANDIDATES FOR DEGREES

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RONALD ALLEN BLOCK, of Baltimore, Md.  
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 CHARLES EDWARD MORRISON, of Billings, Mont.  
 WALTER SCOTT MURCH, of New York, N. Y.  
 DAVID RUBY MYERS, of Laurel, Md.  
 NICHOLAS WOODS NOON, of Short Hills, N. J.  
 MARTIN BRIAN O'CONNELL, of Branford, Conn.  
 PHILIP BARTON ONDERDONK, Jr., of Philadelphia, Pa.  
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 ROBERT KEMP RATHBUN, of Baldwin, Md.  
 WILLIAM GEORGE REESE, Jr., of Little Rock, Ark.  
 STEVEN HILL REYNOLDS, of Mountain Lakes, N. J.  
 ROBERT D'ORIGNY RIEFFEL, of Lausanne, Switzerland  
 MATTHEW LADDON ROBBINS, of Great Neck, N. Y.  
 H. ARMSTRONG ROBERTS III, of Springfield, Pa.  
 ROBERT ALAN ROSENBAUM, of Portland, Ore.  
 BENJAMIN ROSENBERG, of Baltimore, Md.  
 CARL DARCY ROSENBLUM, of Philadelphia, Pa.  
 STEVEN ROTHBART, of Miami, Fla.  
 GERALD GORDON RUARK, of Baltimore, Md.  
 RICHARD MARTIN RUBIN, of Baltimore, Md.  
 RICHARD ROY RUBIN, of Bethesda, Md.  
 ROBERT GEORGE RUBIN, of Canton, Ohio



INDULAL KALIDAS RUGHANI, of Blantyre, Malawi, Africa  
 ROBERT LEE RUPARD, of Washington, D. C.  
 SCOTT RUTHERFORD, of West Chester, Pa.  
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 JAMES RICHARD SAUNDERS, of Menlo Park, Calif.  
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 ROBERT BROOKS SHILKRET, of Salisbury, Md.  
 GREGORY JAMES SHUTTLESWORTH, of East Orange, N. J.  
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 JOHN LEWIS SIPOS, of Cedar Grove, N. J.  
 JERRY DALE SMILACK, of Winter Haven, Fla.  
 ROBERT GEE SMITH, of Bowie, Md.  
 CHARLES R. SNYDER, of Toledo, Ohio  
 FRANK JOSEPH SORIANO, of Cedar Knolls, N. J.  
 JAMES LARRY STEARNS, of Oklahoma City, Okla.  
 ALAN BRUCE STEINWALD, of Baltimore, Md.  
 GLENN CHRISTIAN SVENNING, of Darien, Conn.  
 FRANCIS CHARLES SZOKA, Jr., of Glen Burnie, Md.  
 JACOB M. TABAK, of Baltimore, Md.

SHERMAN M. W. TEICHMAN, of Long Island City, N. Y.  
 EUGENE LAWRENCE TIMINS, of West Orange, N. J.  
 PAUL STEPHEN TISCHLER, of Schenectady, N. Y.  
 JOHN ROBERT TRACH, of Offutt Air Force Base, Nebr.  
 GILBERT ELIHU TOLL, of Philadelphia, Pa.  
 PETER ALBERT TOMASULO, of Columbus, Ohio  
 NICHOLAS TSAKALOS, of Baltimore, Md.  
 JAMES MANSEL TUBB, of Alexandria, Va.  
 DENIS HOWARD TYRAS, of Massapequa, N. Y.  
 MELVILLE PAUL ULMER, of Arlington, Va.  
 JAN STEPHEN VANGROV, of Dayton, Ohio  
 ROBERT JOHN VERGNANI, of Union City, N. J.  
 JEROME DANIEL VERLIN, of Philadelphia, Pa.  
 JOSEPH FRANCIS VIGLOTTI, of Springfield, Pa.  
 JOHN WAYNE WAGENER, of Tenafly, N. J.  
 ALFRED SOLOMON WALDSTEIN, of Brockton, Mass.  
 H. THOMAS WALKER, Jr., of Baltimore, Md.  
 SAMUEL WOODWARD WARBURTON, Jr., of Wayne, Pa.  
 RICHARD DEXTER WARRINGTON, of Haddonfield, N. J.  
 ROGER FRANK WATTENDORF, of Paris, France  
 ROGER ELLIS WETTERBEE, of Newington, Conn.  
 STEPHEN TEN BROECK WHITNEY, of Oakdale, N. Y.  
 AUGUSTINE STEPHEN WIEST III, of Baltimore, Md.  
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 MIRIAM RACHEL WINTER, of Merrick, N. Y.  
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 ROBERT ARTHUR YATES, of Towson, Md.  
 JAMES BIAYS YOUNG, of Baltimore, Md.  
 MARTIN ZELDIN, of Farmingdale, N. Y.  
 BERNARD ELIHU ZELIGMAN, of Baltimore, Md.  
 WILLIAM DONELAN ZIEVERINK, of Cincinnati, Ohio

(275)

### *Graduating with Departmental Honors*

HARVEY JOEL BERGER	Business	LEE MARK MIDDLEMAN	Physics
HERBERT BETTER	Business	STEPHAN LARRY MINTZ	Physics
DOUGLAS MACARTHUR CAREY	Romance Languages	CHARLES EDWARD MORRISON	International Studies
JONAH R. CHURGIN	Political Science	RICHARD EMIL PAGANO	Biophysics
MICHAEL COMENETZ	Mathematics	RICHARD DAVID PIZER	Chemistry
ROBERT MARKS FEIBEL	Classics	RICHARD ROY RUBIN	History
ROBERT NATHAN GOLDBERG	Chemistry	ROBERT BROOKS SHILKRET	Psychology
FRANK JOSEPH KOUGL III	Education	RONALD LOEB SILBERMAN	Political Economy
ALLEN WILLIAM LEADBETTER	Chemistry	JACOB M. TABAK	Chemistry
ARCHIE HARVIN MAHAN	Physics	JAMES ENGLISH WILLIAMS, Jr.	Chemistry
HERBERT JAY MANDL	German	ROBERT ARTHUR YATES	Mathematics

### *Graduating with General Honors*

JOSEPH CHARLES BAGSHAW	JOEL A. CORDISH
HERBERT BETTER	CHRISTOPHER DUFLON CREED
DOUGLAS MACARTHUR CAREY	THOMAS EDWARD DAVIS
JONAH R. CHURGIN	ANDREW LEWIS FEENBERG
WILLIAM REID COLQUHOUN	ROBERT MARKS FEIBEL
MICHAEL COMENETZ	LUIN PERRY FITCH, Jr.

JAMES WILFORD FORSTER  
 RUDOLPH MICHAEL FRANKLIN  
 HOWARD LEE FRIEDENBERG  
 DANIEL ERIC FURST  
 BARRY SHELDON HANDWERGER  
 DONALD ANTHONY HENDERSON, JR.  
 NEAL LOUIS HORN  
 ARTHUR BERNHARDT JENNY, JR.  
 ROBERT JOHN KLEBE  
 RICHARD HARRIS LANE  
 ARCHIE HARVIN MAHAN  
 MICHAEL W. MARLIES  
 DALE MITCHELL MEYERS  
 LEE MARK MIDDLEMAN  
 STEPHAN LARRY MINTZ  
 GARY EDWARD MOORE  
 CHARLES EDWARD MORRISON  
 WALTER SCOTT MURCH

RICHARD EMIL PAGANO  
 FRANCIS D. PIEN  
 RICHARD DAVID PIZER  
 WILLIAM GEORGE REESE, JR.  
 RICHARD ROY RUBIN  
 THEODORE JEROME SCHNEYER  
 MORRIS JACOB SCHOENEMAN  
 ROBERT BROOKS SHILKRET.  
 RONALD LOEB SILBERMAN  
 FRANK JOSEPH SORIANO  
 JACOB M. TABAK  
 PETER ALBERT TOMASULO  
 MELVILLE PAUL ULMER  
 JAN STEPHEN VANGROV  
 H. THOMAS WALKER, JR.  
 SAMUEL WOODWARD WARBURTON, JR.  
 JAMES ENGLISH WILLIAMS, JR.  
 ROBERT ARTHUR YATES

## *BACHELORS OF ENGINEERING SCIENCE*

LOWELL BRUCE ANDERSON, of Chicago, Ill.  
 STEPHEN RUSSELL ASKEW, of Baltimore, Md.  
 VINCENT WALTER BANKOSKI, JR., of Baltimore, Md.  
 WILLIAM HENRY BECKER, of Schenectady, N. Y.  
 JAMES WALTER BISHOP, of Baltimore, Md.  
 HOWARD MARSHALL BLOOM, of Baltimore, Md.  
 MELVIN ROBERT BOWERS, of Baltimore, Md.  
 COURTLAND FAUQUIER BUELL, JR., of Baltimore, Md.  
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 WILLIAM HENRY CARTER, of Baltimore, Md.  
 ALFRED VANALLAN CLARK, JR., of Westminster, Md.  
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 RONALD WEBSTER DEACON, of Baltimore, Md.  
 MICHAEL DAVID DEMILT, of Mineola, L. I., N. Y.  
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 JOSEPH EDGAR FLEAGLE, of Thurmont, Md.  
 DAVID CHARLES GAKENHEIMER, of Baltimore, Md.  
 GERARD HOWARD GIZINSKI, of Baltimore, Md.  
 JAMES PHILIP GOODMAN, of Annapolis, Md.  
 WILLARD LEE GRAVES, JR., of Springfield, Mo.  
 JOSEPH WILLIAM HANLE, of Baltimore, Md.  
 THOMAS JEROME HARTKA, of Baltimore, Md.  
 JAMES PAUL HAUCK, of Girdletree, Md.  
 FREDERICK MICHAEL HEIDER, of Bethesda, Md.  
 JOHN FRANCIS HENNESSY, JR., of Baltimore, Md.  
 WADE HAMPTON HORSEY II, of Baltimore, Md.  
 JOHN EDWARD HOWARD, of Port Republic, Md.  
 WILLIAM KATZ, of Freehold, N. J.  
 BRUCE PATTERSON KIRK, of Oxon Hill, Md.

CHARLES EUGENE KNADLER, JR., of Annapolis, Md.  
 MALCOLM ROBERT KNAPP, of Bethesda, Md.  
 KNUT SVERRE KONGELBECK, of Silver Spring, Md.  
 CLARENCE KENT LAMBERT III, of Chestertown, Md.  
 THOMAS PHIPPS LANGDON, of Baltimore, Md.  
 RUSSEL RICHARDSON LILLISTON, of Irvington, N. J.  
 THOMAS BLAISE LONEGRO, of Baltimore, Md.  
 JOSEPH PHILLIP LUBERTINE, of Baltimore, Md.  
 RICHARD BROOKE LYNCH, of Lutherville, Md.  
 GERALD CHARLES MACKS, of Baltimore, Md.  
 HEBER MACWILLIAMS III, of Churchton, Md.  
 TERENCE JAMES MCCORMICK, of Hagerstown, Md.  
 CHARLES MILTON MCINTYRE, of Salisbury, Md.  
 RAYMOND HENRY MILKMAN, of Baltimore, Md.  
 DAVID ALLAN MILLER, of Cherry Hill, N. J.  
 THOMAS KRESKE MILLS, of Arlington, Va.  
 ERNEST HENRY NEELS, of Baltimore, Md.  
 GARRETT MITCHELL ODELL, of New Canaan, Conn.  
 JOHN CHARLES PARMIGIANI, of Baltimore, Md.  
 MART PEEP, of Baltimore, Md.  
 ROBERT BARRETT POND, JR., of Westminster, Md.  
 HARRY DENNIS RAKER, of Baltimore, Md.  
 DAVID CARON ROBERTS, of Abilene, Texas  
 ALLEN BERNARD ROCHKIND, of Silver Spring, Md.  
 ROGER LEE ROSENBERGER, of Wyomissing, Pa.  
 TIMOTHY STEPHEN RUPPALT, of Baltimore, Md.  
 MARK PAUL SCHER, of Silver Spring, Md.  
 LANNY ROSS SHIPLEY, of Hagerstown, Md.  
 STEPHEN ERNEST SILVERMAN, of East Greenwich, R. I.



CRAIG COLIN SINGER, of Baltimore, Md.  
 JAMES LOCHLIN SMITH, JR., of Baltimore, Md.  
 WINTHROP WHITMAN SMITH, JR., of Baltimore, Md.  
 ALAN JOSEPH STANKUS, of Baltimore, Md.  
 RICHARD MICHAEL STANLEY, of Baltimore, Md.

ROGER GREEN STEWART, of Cheverly, Md.  
 VERNON VINCENT WALATKA, JR., of Baltimore, Md.  
 JAMES BENJAMIN WHITE, JR., of Centreville, Md.  
 PAUL ELONZO WOODIE, JR., of Baltimore, Md.

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### *Graduating with Honors*

WILLIAM HENRY BECKER  
 DAVID CHARLES GAKENHEIMER  
 ALLEN BERNARD ROCHKIND

MARK PAUL SCHIER  
 VERNON VINCENT WALATKA, JR.

## *MASTERS OF SCIENCE IN ENGINEERING*

### *with titles of essays*

ZAFAR AHMAD, of Dacca, Pakistan, B.S.E. Engineering College, Dacca, Pakistan, 1961.

A Study of the Activated Sludge vs Trickling Filter Process.

ABDUL-GHAFOUR ALI AGHA, of Mosul, Iraq, B.Sc. University of Baghdad, 1959. Sanitary Engineering and Water Resources.

Sources, Hazards, Measurement, and Removal of Radioisotopes by Water Treatment Processes.

GERALD EARL BENNINGTON, of Lapeer, Mich., B.S.E. (E.E.), B.S.E. (Math) The University of Michigan, 1963. Operations Research and Industrial Engineering.

Investment Allocation for Network Capacity and Reliability.

TEODORE BLANCO-SIPOS, of Caracas, Venezuela, B. of C.E. National University of Costa Rica, 1946; M.P.H. The Johns Hopkins University, 1963. Sanitary Engineering and Water Resources.

Nuclear Reactors: Accidents and Safety.

BLAINE EUGENE DAVIS, of Brownville, Maine, B.S. University of Maine, 1964. Operations Research and Industrial Engineering.

Minimization of Traffic Congestion for a Telephone Communications Network.

THOMAS HENRY DAWSON, of Dahlgren, Va., B.S. Virginia Polytechnic Institute, 1963. Mechanics.

The Prediction of Shear Deformation of a Polycrystalline Aggregate from Single Crystal Data.

ROBERT VALENTINO EDWARDS, of Baltimore, Md., B.A. The Johns Hopkins University, 1962. Chemical Engineering.

On the Dielectric Constant of Starch Solutions.

MARSHALL FEUER, of New York, N.Y., B.S. Columbia University, 1963. Operations Research and Industrial Engineering.

Transients in Queues—Measuring the Transition Time from Initial State to Equilibrium State.

VASCAR GODFREY HARRIS, of Lynchburg, Va., B.E.S. The Johns Hopkins University, 1962. Mechanics.

The Turbulence Generated by an Array of Parallel Rods.

GERALD SAUL JANOWITZ, of Brooklyn, N.Y., B.S. Polytechnic Institute of Brooklyn, 1963. Mechanics.

The Hall Effect in the Two Dimensional Flow of a Conducting Gas over an Insulating Plane.

ERHARD FRIEDRICH JOERES, of Baltimore, Md., B.E.S. The Johns Hopkins University, 1961. Sanitary Engineering and Water Resources.

The Influence of Rainfall Intensity on Traffic Flow.

KARL EMERY LONGLEY, of Porterville, Calif., B.S. in C.E. The University of New Mexico, 1960. Sanitary Engineering and Water Resources.

Some Aspects of Iodination of Bacteriophage, f2.

JOHN CHARLES MALONE, of Milford, Conn., B.E. Yale University, 1963. Operations Research and Industrial Engineering.

Price, Production and Inventory in a Monopolistic Firm.

CHRISTY MALTAS, of Monaco, B.S. St. Andrew's University, 1960. Mechanics.

Supersonic Flow around a Circular Cylinder.

CHARLES NEOS, of Manchester, N. H., B. S. in C. E. University of New Hampshire, 1960. Sanitary Engineering and Water Resources.

The Removal of Phosphate by Algae Growing in Potomac River Water.

LIAN PIAN OEY, of Bandung, Indonesia. Chemical Engineering.

The Effect of a Liquid-Liquid Interface on Mass Transfer.

EDWARD JOHN PLUHOWSKI, of Rockville, Md., B. C. E. The College of the City of New York, 1949. Sanitary Engineering and Water Resources.

Hydrology of the Upper Malad River Basin, Idaho.

KENNETH LEONARD REIFSNIDER, of Keymar, Md., B. E. S. The Johns Hopkins University, 1963. Mechanics.

X-Ray Diffraction Macroscopy: A Study of Deformed Aluminum Single Crystals.

JAMES STUART TAYLOR, of Baltimore, Md., B. A. The Johns Hopkins University, 1956; B. S. E., 1961. Electrical Engineering.

An Experimental Method for Determining the Thermal Radiation Contours of Extended Areas and an Application of the Method to Electronic Circuit Boards.

ZEV ULLMANN, of Haifa, Israel, B. E. S. The Johns Hopkins University, 1964. Operations Research and Industrial Engineering.

The Simulation of the Billing Operations of a Telephone Company.

STUART G. WALES, of Two Rivers, Wis., B. S. in C. E. Valparaiso University, 1963. Sanitary Engineering and Water Resources.

Natural Processes: Their Influence on Reservoir Water Quality.

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## DOCTORS OF ENGINEERING

### *with titles of dissertations*

LAWRENCE EDWARD DICKENS, of Baltimore, Md., B. S. E. The Johns Hopkins University, 1960; M. S. E., 1962. Electrical Engineering.

Spreading Resistance as a Function of Geometry and Frequency.

RALPH LYNDE DISNEY, of Baltimore, Md., B. E. The Johns Hopkins University, 1952; M. S. E., 1955. Operations Research and Industrial Engineering.

Some Problems in the Theory of Conveyors and Their Analysis by the Method of Decomposition of Queueing Networks.

MICHAEL ALEXANDER KOTT, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1956; M. S. E., 1959. Electrical Engineering.

An Investigation of a Millemetric Wave Variable Beamwidth Antenna.

GASPAR RODOLFO VALENZUELA, of Ellicott City, Md., B. E. E. University of Florida, 1954; M. S. E., 1955. Electrical Engineering.

The Rod-Beam Waveguide.

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## BACHELORS OF SCIENCE

GEORGE JOHN ADELHARDT, JR., of Baltimore, Md.

CLARENCE ROBERT AMOS, of Baltimore, Md.

JOHN G. BENSON, of Timonium, Md.

MARY ELIZABETH BISHOP, of Cockeysville, Md.

JOHN IRVING BLACKWELL, JR., of Baltimore, Md.

RALPH WILLIAM BLATTNER, of Aberdeen, Md.

WILLIAM ALBERT BORTNER, of Baltimore, Md.

JANET AUGUSTA BIEDLER BROWNE, of Baltimore, Md.

JEROME PAUL BUKOVSKY, JR., of Baltimore, Md.

KEITH FISCHER CARLSON, of Laurel, Md.

SIDNEY CARTON, of Baltimore, Md.

PIERCE E. CODY III, of Baltimore, Md.

DOUGLAS TAYLOR CRESWELL, of Ellicott City, Md.

ROBERT JOHN DAVIS, JR., of Baltimore, Md.

DOROTHY SMITH DOYLE, of Baltimore, Md.

RUTH R. DUCHATEAU, of Baltimore, Md.

BARTHOLOMEW JOSEPH DUERR, of Baltimore, Md.

STANLEY ALBERT DURAN, of Lutherville, Md.

WILLIAM KERSHAW ELLIOTT, JR., of Baltimore, Md.

SUSAN MANNING FIELD, of Baltimore, Md.



DOROTHY GERTRUDE FRANKEL, of Baltimore, Md.  
 IRENE SHIRLEY PLATT FRIEMAN, of Baltimore, Md.  
 JOHN RUSSELL FROST, JR., of Baltimore, Md.  
 JANET SHAWKER GARRISON, of Baltimore, Md.  
 MALCOLM STEWART GILL, of York, Pa.  
 HAROLD I. GLAZER, of Baltimore, Md.  
 LOUISE WEIMANN GREEN, of Dresden, Germany  
 ANN SWOMLEY HARDEN, of Owings Mills, Md.  
 THOMAS LEONARD HARDEN, of Baltimore, Md.  
 JAMES CARLTON HARRIS, JR., of Glen Burnie, Md.  
 VIRGINIA VICTORIA HIPSLEY, of Baltimore, Md.  
 JOSEPH DANIEL HOGAN, of Arnold, Md.  
 FREDERICK VERNON HOLTER, of Baltimore, Md.  
 VERONICA TERESA KAMINSKI, of Dorchester, Mass.  
 GERALD MARTIN KAVANAGH, of Baltimore, Md.  
 RICHARD HENRY KENT, of Baltimore, Md.  
 JOSEPH FELIX LACETERA, JR., of Baltimore, Md.  
 PAULINE JAMES LEANOS, of Annapolis, Md.  
 FREDERICK LEIST, JR., of Baltimore, Md.  
 CARROLL RICHARD LEISTER, of Rockville, Md.  
 JOHN LEVERING, of Baltimore, Md.  
 JUDITH KURTZ LOVELACE, of Maysville, Ky.  
 BEVERLY TROUTMAN MADDOCKS, of Towson, Md.  
 DOROTHY MAY BAER MARTEL, of Baltimore, Md.  
 NANCY STEVENS MASTERS, of Ellicott City, Md.  
 HARTSEL GLENN MCCLAIN, of Upperco, Md.  
 JAMES DONALD MCGOWAN, of Baltimore, Md.  
 WILLIAM JOSEPH MOULDS, of Baltimore, Md.  
 PABLO ALFREDO MAYORCA NESTLER, of Glen Burnie, Md.

HARVEY LEIGH NOYES, of Baltimore, Md.  
 EUGENIE FUNDA OBST, of Baltimore, Md.  
 ROBERT GEORGE PAQUETTE, of Manchester, N. H.  
 CHARLES WEBSTER PARKS, of Baltimore, Md.  
 JACOB WILLIAMSON PARR, of Baltimore, Md.  
 JANE PLANT, of Baltimore, Md.  
 DONALD LESLIE PULKET, of Pikesville, Md.  
 RUSSELL MILLARD REIDER, of Baltimore, Md.  
 IVAN DUANE RHOADS, of Washington, D. C.  
 SYLVIA JUNE RICHARDSON, of Birmingham, Mich.  
 HENRY VICTOR RIEGER, JR., of Baltimore, Md.  
 ELLEN MARIE ROGUS, of Baltimore, Md.  
 JOHN EDWARD ROLAND, of Timonium, Md.  
 LEONARD HENRY SCHEHR, of Randallstown, Md.  
 LILLIAN MAZUR SCHWARTZ, of Baltimore, Md.  
 WILLIAM GILMORE SCOTT, of Baltimore, Md.  
 LLOYD PETER SENSENBAUGH, JR., of Towson, Md.  
 CHARLES TALBOTT SHAAB, of Baltimore, Md.  
 JACK LAWRENCE SHAPIRO, of Baltimore, Md.  
 CLYDE GLENN ROY STAUP, of Linthicum Heights, Md.  
 CHARLES EDWARD STEVENS, JR., of Baltimore, Md.  
 VERNON FRANKLIN STRICKLIN, of Baltimore, Md.  
 RUSSELL CALVIN THOMPSON, of Baltimore, Md.  
 MARGARET CROWLEY WADE, of Towson, Md.  
 SAMUEL CLAYTON WILLIAMS, of Brooklandville, Md.  
 RONALD GILBERT WINDSOR, of Bel Air, Md.  
 SANDRA BELO WYATT, of Baltimore, Md.  
 CONSTANTINE XINTAS, of Baltimore, Md.

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### *Graduating with Honors*

JANET AUGUSTA BIEDLER BROWNE  
 JEROME PAUL BUKOVSKY, JR.  
 DOUGLAS TAYLOR CRESWELL  
 RICHARD HENRY KENT  
 JOSEPH FELIX LACETERA, JR.

BEVERLY TROUTMAN MADDOCKS  
 EUGENIE FUNDA OBST  
 JANE PLANT  
 ELLEN MARIE ROGUS

### *BACHELORS OF SCIENCE IN NURSING*

SUE ANNE BEIDELMAN, of Baltimore, Md.  
 PATRICIA ANN COLSON, of Baltimore, Md.  
 ROSEMARIE KATHERINE EYRE-WALKER, of Calcutta, India.  
 JUNE MILDRED GUILD, of New York, N. Y.  
 VIRGINIA LANKFORD DALESANDRO, of Wenonah, N. J.  
 JANICE FUNKHOUSER LARSEN, of Baltimore, Md.

NANCY EDGAR LISKEY, of Glen Burnie, Md.  
 EMILY TODD SLUNT, of Baltimore, Md.  
 SUZANNE SMELTZER STRAYHORN, of Tampa, Fla.  
 WINNIFRED JEAN WHEELER, of Baltimore, Md.  
 ELIZA MCCORMICK WOLFF, of Baltimore, Md.

(11)

## BACHELORS OF SCIENCE IN ENGINEERING

- THOMAS OSBORNE ANDERSON, of Lutherville, Md.  
WILLIAM DOUGLAS ARCHER, of Baltimore, Md.  
CHARLES BERNARD BALSER, of Baltimore, Md.  
ROBERT LEE BARRETT, of Baltimore, Md.  
ALAN ADOLPH BARTNICK, of Linthicum Heights, Md.  
JAMES JARRELL BEDDOWS, Jr., of Baltimore, Md.  
WILLIAM JAMES BICHELL, of Phoenix, Md.  
GEORGE MARTIN BLAKE, of Baltimore, Md.  
GORDON FOREMAN BLOXHAM, of Baltimore, Md.  
EDWARD JOSEPH BOCHENEK, of Baltimore, Md.  
GEORGE HOOVER BOND, of Baltimore, Md.  
WARREN LOUIS BRADLEY, of Street, Md.  
KENNETH LANE BROOM, of Baltimore, Md.  
HOWARD IRVING BULL, Jr., of Baltimore, Md.  
BRUCE MOORE BULLOCK, of Baltimore, Md.  
ROBERT ANTHONY CELENTANO, of Baltimore, Md.  
MYRON DUDLEY CHEDESTER, of Baltimore, Md.  
EUGENE RAYMOND COCCO, of Baltimore, Md.  
OWEN SANG DEA, of Baltimore, Md.  
WILLIAM DONALD DOBBINS, of Baltimore, Md.  
WILLIAM NEAL ECKENBARGER, of Glen Burnie, Md.  
JOSEPH EDWIN ELINE, of Reisterstown, Md.  
DANIEL MARK ELLIGSON, of Baltimore, Md.  
FERDINAND JOSEPH EVANGELISTA, of Severna Park, Md.  
MILTON HARMON FADELY, Jr., of Reisterstown, Md.  
ROBERT JAMES FEESER, of Baltimore, Md.  
EUGENE ROCHA FITTA, Jr., of Baltimore, Md.  
JOHN LOUIS FLATER, Jr., of Towson, Md.  
CLARENCE HERMAN FOARD, of Timonium, Md.  
RALPH ALBERT FOWLER, of Baltimore, Md.  
JOHN ANNUAL FREEZE, of Glen Burnie, Md.  
DOUGLAS DORMAN GAGEN, of Baltimore, Md.  
RUDOLPH JOSEPH GALLINA, of Randallstown, Md.  
JOHN WILLIAM GIPPRICH, Jr., of Baltimore, Md.  
ROBERT KENNETH GJERTSEN, of Baltimore, Md.  
JOHN JOSEPH GODACK, of Baltimore, Md.  
VICTOR JOSEPH GRAMS, Jr., of Baltimore, Md.  
HAROLD RONALD GREEN, of Hagerstown, Md.  
JOSEPH STAFFORD GREENWELL, Jr., of Baltimore, Md.  
\*FRANCIS GULLACE, of Baltimore, Md.  
ROBERT LEE HACKMANN, of Glen Burnie, Md.  
PAUL THOMAS HADDOCK, of Baltimore, Md.  
JAMES LOWERY HARRISON III, of Baltimore, Md.  
HUGH LEROY HAX, Jr., of Pasadena, Md.  
HOUSTON LONGINO HEMPHILL, Jr., of Baltimore, Md.  
WILLIAM JOSEPH HERBERICH, of Baltimore, Md.  
EDWIN WILLIAM CHARLES HILDEBRAND, Jr., of Baltimore, Md.  
CLARENCE ARTHUR HUGHES, of Marion, Iowa  
GEORGE EVERETT HUNT, Jr., of Baltimore, Md.  
RODERICK SHELBY INSLEY, of Owings Mills, Md.  
HUGH LESTER JANNEY, of Baltimore, Md.  
WILLIAM DONALD JENKINS, SR., of Baltimore, Md.  
ROBERT EMMETT JONES, Jr., of Timonium, Md.  
JOHN RAYMOND KAUFFMAN, Jr., of Baltimore, Md.  
WILLIAM EDGAR KING, Jr., of Baltimore, Md.  
GEORGE ELLIS KLEIN, of Baltimore, Md.  
CHARLES WALLIS KOONTZ, of Ellicott City, Md.  
PETRO GEORGE KOSMIDES, of Baltimore, Md.  
WALTER CASPER KRAFT, of Baltimore, Md.  
BERNARD KUDER, Jr., of Baltimore, Md.  
WILLIAM AUSTIN KUHN, of Baltimore, Md.  
FRANCIS JOSEPH LEITNER, of Baltimore, Md.  
JOHN GEORGE LENHOFF, Jr., of Linthicum Heights, Md.  
RICHARD DAVID LIPPY, of Greenmount, Md.  
DAVID B. LOTT, of Baltimore, Md.  
DONALD JAMES LOUGHLIN, of Baltimore, Md.  
JAMES WILLIAM LOWE, of Lutherville, Md.  
WILLIAM BRUCE MACMILLAN, of Towson, Md.  
CARL FRANCIS MANGANELLI, of Cambridge, Mass.  
JOHN JOSEPH MANGANO, of Baltimore, Md.  
HOWARD CARL MANGER, of Baltimore, Md.  
ERNEST PEARSON MARSH, of Baltimore, Md.  
FRANK GEORGE MARSHALL, Jr., of Glen Burnie, Md.  
DONALD EUGENE MATHEWS, of Baltimore, Md.  
ROBERT ANTHONY MATTEY, of Catonsville, Md.  
OWEN JOSEPH McATEER, of Baltimore, Md.  
DOUGLAS BRUCE McCOACH, Jr., of Baltimore, Md.  
WESLEY ALOYSIUS McMAHON, of Baltimore, Md.  
ERNEST THEODORE MESSERSMITH, JR., of Baltimore, Md.  
ALLEN MICHEL, of Baltimore, Md.  
DONALD LEWIS MILLER, of Baltimore, Md.  
LAURENCE EDWARD MILLER, Jr., of Baltimore, Md.  
ALLAN JORDAN MILLS, of Baltimore, Md.  
WILLIAM BERNARD MILWAY, of Bel Air, Md.  
JOHN JOSEPH NOVAK, of Baltimore, Md.  
GERALD WILLIAM OLIVER, of Baltimore, Md.  
CARROLL THOMPSON PARDOE, of Ellicott City, Md.  
IRVING PEARLMAN, of Baltimore, Md.  
EUGENE GABRIEL PETERS, of Baltimore, Md.  
ALFRED JOHN PFANNESCHLAG, of Reisterstown, Md.  
ROBERT EARLE PORTER, of Baltimore, Md.  
ANTHONY BURTON PRICE, of Joppa, Md.  
WILLIAM LEONARD PRICE, of Linthicum Heights, Md.  
FERDINAND CESARE PROVINI, of Baltimore, Md.  
BERT CARL ROBERTS, JR., of Baltimore, Md.  
JOHN DOMINIC ROSCOE, of Baltimore, Md.  
DAVID MICHAEL ROTHBERG, of Baltimore, Md.  
JOHN FRANCIS RYDER, of Glen Burnie, Md.  
MIGUEL ESTEBAN SAINZ-SUAREZ, of Havana, Cuba  
FREDERICK LEITER SCHAFF, of Linthicum Heights, Md.  
CARL WILLIAM SCHEFFEL, of Ellicott City, Md.  
WILLIAM FREDERICK SCHMID, of Baltimore, Md.  
WILLIAM THOMAS SEWELL, of Baltimore, Md.  
LARRY THOMAS SHAFF, of Bel Air, Md.  
ROBERT MYRVEN SHAFF, of Randallstown, Md.  
MILO WESLEY SHEETS, of Baltimore, Md.  
WILLIAM OTTO SILLER, of Baltimore, Md.

\* Posthumously



CHARLES MATTHEW SIPERKO, of Ellicott City, Md.  
 JAMES FRANCIS SKARDA, Jr., of Baltimore, Md.  
 HERMAN IRVING SLATTERY, of Baltimore, Md.  
 BENJAMIN ROBERT SLOWIK, of Baltimore, Md.  
 LINCOLN JOSEPH SMITH, of Hyattsville, Md.  
 WALTON HASTINGS SMITH, Jr., of Baltimore, Md.  
 RAY THOMAS SORRELL, of Bel Air, Md.  
 RICHARD LEONARD SPENCE, of Ellicott City, Md.  
 ROBERT LEROY STEEN, of Baltimore, Md.  
 JOHN RICHARD TAYLOR, of Baltimore, Md.  
 KAY DAVID TAYLOR, of Baltimore, Md.  
 PHILIP MELVIN TETREALT, of Edgewood, Md.  
 RICHARD HAROLD TRAINOR, of Owings Mills, Md.

FREDERICK GRANDON TRAUT, Jr., of Baltimore, Md.  
 ROBERT BRUCE TURNER, of Bel Air, Md.  
 MARCELLUS HENRY UHLER, of Timonium, Md.  
 FRANKLIN LOUIS VANIK, of Baltimore, Md.  
 JOHN CHARLES VOELKEL, of Baltimore, Md.  
 PHILIP RICHARD WASZKIEWICZ, of Baltimore, Md.  
 WILLIAM JAMES WEGLEIN, of Baltimore, Md.  
 FREDERICK VERNON WILHELM, of Baltimore, Md.  
 JERRY CARSON WILMOT, of Baltimore, Md.  
 DAVID MILTON WOERNER, of Baltimore, Md.  
 FREDERICK HUGO WOLF, of Baltimore, Md.  
 HENRY PETER ZERHUSEN, of Baltimore, Md.

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### *Graduating with Honors*

HOWARD IRVING BULL, JR.  
 ROBERT ANTHONY CELENTANO  
 CLARENCE HERMAN FOARD  
 EDWIN WILLIAM CHARLES HILDEBRAND, JR.  
 WILLIAM DONALD JENKINS, SR.

CHARLES WALLIS KOONTZ  
 JOHN GEORGE LENHOFF, JR.  
 CARROLL THOMPSON PARDOE  
 ANTHONY BURTON PRICE  
 BENJAMIN ROBERT SLOWIK

## *MASTERS OF SCIENCE IN ENGINEERING*

*in the Evening College  
 with titles of essays*

STANLEY ALAN KLEIN, of Baltimore, Md., B. E. S. The Johns  
 Hopkins University, 1959. Electrical Engineering.  
 The Grid-Controlled, Secondary Emission, Electron  
 Multiplier Tube.

RODERICK HENRY SEAR, of Linthicum Heights, Md., B. Sc.  
 University of London, 1952. Electrical Engineering.  
 Instabilities in Varactor Frequency Multipliers.

MARTIN GERALD WOOLFSON, of Baltimore, Md., B. S. E. The  
 Johns Hopkins University, 1958. Electrical Engineering.  
 The Effects of Pulse Repetition Instability on the  
 Range Accuracy of a Pulse Type Radar System.

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## *MASTERS OF SCIENCE*

*in the Evening College  
 with titles of essays*

CARROLL MARLIN BARRACK, of Baltimore, Md., B. E. The  
 Johns Hopkins University, 1950; D. Eng. 1956. Manage-  
 ment Science.  
 DWIGHT KELLOGG BARTLETT III, of Baltimore, Md., A. B.  
 Harvard University, 1953. Management Science.  
 MARTIN ALAN BAUM, of Wheaton, Md., B. S. in Com.  
 Drexel Institute of Technology, 1961. Management  
 Science.  
 CHARLES HENRY BECKER, of Baltimore, Md., B. E. S. The  
 Johns Hopkins University, 1956. Management Science.

PAUL IRVIN BROWN, of Baltimore, Md., B. S. University of  
 Maryland, 1951. Management Science.  
 DARRYL WADE COPELAND, of Uhrichsville, Ohio, B. S. E. E.  
 Duke University, 1958. Management Science.  
 GEORGE LOUIS FISCHER, of Baltimore, Md., B. E. S. The  
 Johns Hopkins University, 1957. Management Science.  
 SYLVAN HACK, of Baltimore, Md., B. S. Bus. The Johns  
 Hopkins University, 1948. Management Science.

JOSEPH ANTHONY HAEFFNER, of Baltimore, Md., A.B. The Catholic University of America, 1956. Management Science.

ALLAN CLARKE HAMILTON, JR., of Timonium, Md., B.S. Worcester Polytechnic Institute, 1956. Management Science.

HARRIS RICHARD HOLT, of Silver Spring, Md., A.B. Kenyon College, 1956. Physics.

The Mössbauer Effect and the Debye-Waller Factor.

GEORGE E. IMMERWAHR, of Baltimore, Md., B.S. Princeton University, 1930. Management Science.

HERMAN TERRY KRAVETZ, of Pikesville, Md., B.S. E. P. New York University, 1956. Physics.

Derivation of Reflection and Transmission Coefficients of Thick Plates with an Absorbing Media.

JOSEPH LEO LEWIS, JR., of Timonium, Md., B.S. in Mathematics, University of Notre Dame, 1953. Physics.

The Raman Effect.

STEPHEN HUGH LUBORE, of Lutherville, Md., B.S. University of Maryland, 1957. Management Science.

WILLIAM ANTHONY LUTTS, of Baltimore, Md., B.S. Loyola College, 1959. Management Science.

WILLIAM DONALD OWINGS, of Ellicott City, Md., A.B. Western Maryland College, 1952. Physics.

A Solution of the Time Dependent Transport Equation for Gamma Rays.

WALTER WINFIELD PLEINES, of Baltimore, Md., B.E. The Johns Hopkins University, 1949. Management Science.

ENNIS FRANCIS QUIGLEY, of Baltimore, Md., B.S. Loyola College, 1961. Physics.

The Analysis of the  $\text{He}^3(\text{d,p})\text{He}^4$  Reaction for a Deuteron Energy of 10.2 Mev.

LESTER PAUL RIDDLE, of Glen Burnie, Md., B.S. E. P. University of Illinois, 1960. Physics.

Aperture Apodization Resulting in Optimal Fraunhofer Diffraction Patterns.

STANLEY ROBERT SCHEINER, of Towson, Md., B.S. in E. E. Washington University, 1941. Management Science.

IAN DOWNIE SMITH, of Baltimore, Md., B.S. I. E. Iowa State College, 1959. Management Science.

WILLIAM BLACKBURN WIDHELM, of Timonium, Md., B.E.S. The Johns Hopkins University, 1959; M.S.E., 1960. Management Science.

KENNETH ULON ZAJIC, of Randallstown, Md., B.S. The Johns Hopkins University, 1962. Management Science.

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## *MASTERS OF EDUCATION*

MARIE ALTHEA BARLOW, of Baltimore, Md., B.S. in M. T. Loyola University, Louisiana, 1949.

ELEANOR BIRK BEES, of Lutherville, Md., B.S. State Teachers College, Towson, Md., 1961.

LILLY FELDMAN BLUM, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1949.

PETER GARLAND BRIGGS, of Newton Centre, Mass., A.B. Harvard University, 1959.

AVIS O. COCHRANE BROWN, of Perry Point, Md., A.B. Boston University, 1945.

ALICE TROTT BUEHNER, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1940.

JOHN ALFRED BUTLER, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1957.

DARLEAN LULA CAGER, of Baltimore, Md., B.S. Ed. State College, Cheyney, Pa., 1960.

JOHN EVANS CARNELL, of Baltimore, Md., B.S. The Pennsylvania State University, 1952.

WALTER EVERETT DASHIELL, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1958.

RUTH UNION DAVIS, of Baltimore, Md., B.A. University of Pennsylvania, 1945.

GRIFFITH BYRD DORN, JR., of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1958.

DOROTHY TROWBRIDGE EDWARDS, of Towson, Md., B.S. The Johns Hopkins University, 1943.

BERNARD G. ELFERT, of Madison, S. Dak., A.B. State Teachers College, Jacksonville, Ala., 1956.

NORMAN CLIFFORD FARNLOF, of Colora, Md., A.B. Harvard University, 1943; Th.B. Philadelphia Divinity School, 1950.

JESSIE VIOLET GARREN, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1943.

LOREN HOWARD GOEHNER, of Kingsville, Md., B.S. in Ed. Concordia Teachers College, 1957.



- DELORES GORDON, of Baltimore, Md., B.S. in Elem. Ed. Coppin State Teachers College, 1960.
- DONALD GORDON HOES, of Baltimore, Md., B.A. Morgan State College, 1955.
- CATHERINE RYAN HORMANSKI, of Baltimore, Md., A.B. Mt. St. Agnes College, 1959.
- FLORENCE ZALKIND HOROWITZ, of Baltimore, Md., A.B. State University of New York, 1938.
- ESTHER BARNETT HUBER, of Snow Hill, N.C., B.S. East Carolina College, 1959.
- ALBERT BENTON JAMES, of Jessup, Md., B.S. Tennessee Agricultural and Industrial State Teachers College, 1935.
- ANNETTE LOUISE JOEHNK, of Baltimore, Md., B.S. State University Teachers College, Oswego, N.Y., 1960.
- MALCOLM EDWARD JOHNSON, of Baltimore, Md., B.A. The Johns Hopkins University, 1959.
- MAUREEN FRANCES LEE, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1958.
- VIRGINIA SHORT LINDSKOG, of Tifton, Ga., B.S. Mississippi State College for Women, 1930.
- IRENE JOHNSON MADISON, of Baltimore, Md., B.A. Morning-side College, 1940.
- DORIS ELAINE MAGAHA, of Baltimore, Md., A.B. Goucher College, 1953.
- WILLIAM FRANKLIN MAKINSON, of Mt. Airy, Md., B.S. State Teachers College, Towson, Md., 1960.
- WILLIAM HENRY MCCOY, JR., of Glen Burnie, Md., B.S. University of Maryland, 1964.
- KENNETH GRAEME MENZIES, of Baltimore, Md., B.A. Washington College, 1952.
- SUSIE SUTTON MILES, of Baltimore, Md., B.S. Fisk University, 1946.
- MARLENE WISE MOHAMED, of Baltimore, Md., B.S. in Elem. Ed. Coppin State Teachers College, 1955.
- RICHARD LOUIS MULLER, of Baltimore, Md., B.S. Arkansas State Teachers College, 1961.
- PAUL WILLIAM NAPER, of Baltimore, Md., A.B. Gettysburg College, 1959.
- HELEN AGATHA NITKOSKI, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1947.
- CAROLYN BLASS NOLLAU, of Lutherville, Md., B.A. Pennsylvania State University, 1944.
- JAMES MARSHALL PICKETT, of Baltimore, Md., B.A. Washington College, 1960.
- GLORIA FORSHLAGER PRUCE, of Baltimore, Md., B.S. State Teachers College, Towson, Md., 1951.
- LORNA JUNE RABIN, of Philadelphia, Pa., A.B. Temple University, 1956.
- PEGGY ANNE STEINACKER ROYSTON, of Randallstown, Md., B.S. State Teachers College, Towson, Md., 1958.
- JOHN EDWARD SAVAGE, JR., of Baltimore, Md., A.B. Amherst College, 1961.
- KATIE MANARAS SFEKAS, of Baltimore, Md., B.S. The Johns Hopkins University, 1957.
- FIDELA CLARETE SIMMONS, of Baltimore, Md., B.S. Ed. Far Eastern University, Republic of the Philippines, 1959.
- HERBERT KENYON SPRING, of Baltimore, Md., B.A. Houghton College, 1953.
- ALBERT ABRAHAM STARNER, of Baltimore, Md., B.S. Seton Hall University, 1960.
- HELEN SMITH TAYLOR, of Baltimore, Md., B.S. State Teachers College, Salisbury, Md., 1937.
- RACHEL KEPLER TOBIN, of Bel Air, Md., A.B. Hood College, 1940.
- DORIS HOWARD WALLACE, of Baltimore, Md., B.S. Coppin State Teachers College, 1945.
- ADELE GRAUEL WEBB, of Lutherville, Md., B.A. Western Maryland College, 1949.
- NANCY WARFIELD YOUNG, of Baltimore, Md., B.S. Ed. The Ohio State University, 1960.

## *MASTERS OF LIBERAL ARTS*

- CONSTANTINE ALBANS, of Lowell, Mass., A. B. University of Massachusetts, 1956.
- DONALD KEITH ALGIER, of Baltimore, Md., B. S. Ed. State Teachers College, Millersville, Pa., 1955; M. Ed. University of Maryland, 1960.
- JOHN JAY ALLEN, of Baltimore, Md., B. A. The State College of Washington, 1956.
- LOUIS BECK, of West Hartford, Conn., B. S. University of Maryland, 1961; B. A. 1963.
- CLARENCE W. BLOUNT, of Baltimore, Md., A. B. Morgan State College, 1950.
- CLINTON EUGENE BROWNE II, of Edgewood Arsenal, Md., A. B. in Th. Gordon College, 1949.
- BEVERLY ANN CHICO, of Boston, Mass., A. B. Boston College, 1962.
- HOWARD COHEN, of Baltimore, Md., A. B. Princeton University, 1950.
- MARGARET CUNNINGHAM DOYLE, of Baltimore, Md., B. A. Mt. St. Agnes College, 1949.
- MARGARET ARTIGIANI ENGLAR, of Baltimore, Md., A. B. Western Maryland College, 1956.
- CECELIA HOFFMAN FINK, of Baltimore, Md., B. S. State Teachers College, Towson, Md., 1944.
- SARA ANNE FINNEGAN, of Pikesville, Md., B. A. Sweet Briar College, 1961.
- CHARLES FRANCIS FITZSIMMONS, of Baltimore, Md., A. B. Loyola College, 1959.
- LOIS SPEIGHT FOOS, of Baltimore, Md., B. S. State Teachers College, Towson, Md., 1959.
- MICHAEL JOSEPH GERAGHTY, JR., of Baltimore, Md., B. S. University of Maryland, 1961.
- ROSARIO JOHN GIRASA, of Baltimore, Md., B. S. Fordham University, 1959.
- REBECCA EHUDIN GORDON, of Baltimore, Md., B. S. The Johns Hopkins University, 1928.
- THOMAS MCCARDELL HEARD, of Baltimore, Md., B. S. State Teachers College, Towson, Md., 1960.
- STANLEY HERBERT HYMAN, of Long Branch, N. J., A. B. Temple University, 1957.
- JANET SUTHERLAND JOHNSTON, of Benson, Md., B. A. Western Maryland College, 1959.
- MELVIN DANIEL KROLczyk, of Baltimore, Md., B. S. I. E. The Johns Hopkins University, 1949.
- RONALD EVERARD MARTIN, of Baltimore, Md., B. S. Lynchburg College, 1959.
- KENNETH WAYNE MCGRAW, of Baltimore, Md., B. A. The Johns Hopkins University, 1957.
- ELIZABETH ANNE MULHOLLAND, of Baltimore, Md., A. B. in Ed. The George Washington University, 1933.
- TIMOTHY THOMAS POHMER, of Baltimore, Md., B. A. University of Richmond, 1954; B. D. Union Theological Seminary, Va., 1957.
- EDWIN JOHN POTTER, of Pittsfield, Mass., B. S. M. E. Purdue University, 1953.
- HENRY LOUIS ROGERS, of Baltimore, Md., A. B. Yale University, 1939; LL. B. University of Maryland, 1948.
- GEORGE SATTERTHWAITE II, of Philadelphia, Pa., A. B. University of Pennsylvania, 1957.
- MARGARET GAUSE SHUMAN, of Paris, France, B. A. University of Pennsylvania, 1948; A. M. L. S. The University of Michigan, 1961.
- MARIAN HALVERSON SIBLEY, of Baltimore, Md., B. S. State Teachers College, Towson, Md., 1959.
- CHARLES STEINBOCK, JR., of Baltimore, Md., B. S. The Johns Hopkins University, 1956.
- ROBERT HARDESTY UPTON, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1957; B. S. 1961.
- NORMAN STANLEY WELLS, of Baltimore, Md., B. S. University of Maryland, 1957.
- LOUISE MAXWELL WHITE, of Baltimore, Md., A. B. Randolph-Macon Woman's College, 1959.
- CLYDE FRANKLIN WILLIAMS, of Towson, Md., B. S. The Johns Hopkins University, 1956.
- MORRIS ALAN WISE, of Baltimore, Md., B. A. The Johns Hopkins University, 1962.

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## CERTIFICATES OF ADVANCED STUDY IN EDUCATION

- |   |   |
|---|---|
| <p>MILDRED BOWERS BLACKWELL, of Baltimore, Md., B.S. Morgan State College, 1950.</p> <p>MERRILL TRAYLOR EGGER, of Baltimore, Md., B.S. Ed. Ohio State University, 1944.</p> <p>JAMES VINCENT FERDINAND, of Baltimore, Md., B.S. in Ed. State Teachers College, Bloomsburg, Pa., 1953; M.Ed. The Johns Hopkins University, 1961.</p> <p>STEPHEN FRANK FROMYER, of Glen Burnie, Md., A.B. Baylor University, 1948; M.Ed. The Johns Hopkins University, 1961.</p> <p>EDWARD CLIFTON MURDOCK, of Towson, Md., B.S. Springfield College, 1949; M.Ed., 1956.</p> <p>BETTY LOU RASKIN, of Baltimore, Md., A.B. Goucher College, 1944; M.A. The Johns Hopkins University, 1947.</p> | <p>ROBERT HERBERT RENSEMA, of Baltimore, Md., B.S. University of Maryland, 1960.</p> <p>ARESA CAMM RICHARDSON, of Baltimore, Md., B.S. Hampton Institute, 1947; M.A. The American University, 1958.</p> <p>C. ANN FITZPATRICK RITTER, of Towson, Md., A.B. Goucher College, 1958; M.Ed. The Johns Hopkins University, 1961.</p> <p>ELINOR LOUISE GEE ROBINSON, of Baltimore, Md., B.S. Coppin State Teachers College, 1944; M.A. New York University, 1947.</p> <p>HELENA SAWYER WRIGHT, of Baltimore, Md., B.S. Coppin State Teachers College, 1942; M.A. New York University, 1949.</p> |
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## MASTERS OF SCIENCE

*in the School of Hygiene and Public Health*  
*with titles of theses*

- |   |   |
|---|---|
| <p>MILDRED ELAINE FRANCIS, of Washington, D.C., B.S. District of Columbia Teachers College, 1959. Biostatistics.<br/>Standardization Techniques for Evaluating the Difference between Two Rates.</p> <p>RAGAA EL GAZZAR HAMMAM, of Cairo, United Arab Republic, B.Sc. Ain Shams University, Egypt, 1956; M.P.H. High Institute of Public Health, Egypt, 1960. Biochemistry.<br/>Zinc Deficiency in Rats.</p> <p>NORMAN HERMAN HILLER, of Baltimore, Md., B.S. in Ch. Lafayette College, 1956. Biostatistics.<br/>On Choosing the Optimum k for a 2xk Contingency Table.</p> | <p>JAMES JOSEPH MULLIGAN, JR., of Baltimore, Md., B.A. The Johns Hopkins University, 1956. Microbiology.<br/>Analysis of Rabbit Antibodies to Human Serum Albumin by a Modification of the Farr Technique.</p> <p>JON MICHAEL RANHAND, of Cincinnati, Ohio, B.S. The City College of New York, 1961. Biochemistry.<br/>Factors Required by <i>Haemophilus influenzae</i> that Promote the Subsequent Development of Competence.</p> <p>LOUISE WOTRING SMITH, of Baltimore, Md., B.A. Elmira College, 1962. Pathobiology.<br/>The Effects of Infantile Social Experience and Competition on the Growth and Behavior of CFW Mice.</p> |
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## DOCTORS OF SCIENCE

*in the School of Hygiene and Public Health*  
*with titles of theses*

- |  |  |
|--|--|
| <p>PHILIP GORDON ARCHER, of San Francisco, Calif., B.A. (Math.) The University of Buffalo, 1954; M.A. (Math.), 1958. Biostatistics.<br/>A Mathematical Framework for the Investigation of Precision in Cytological Screening Studies.</p> <p>REZA BEHIN, of Baltimore, Md., D.V.M. University of Tehran, 1956. Pathobiology (Medical Entomology).<br/>Some Factors Influencing the Development of <i>Plasmodium gallinaceum</i> in <i>Aedes aegypti</i>.</p> | <p>ALVIN R. HYLTON, of Frederick, Md., B.S. Iowa State College, 1950. Pathobiology (Medical Entomology).<br/>Extrinsic and Intrinsic Factors Associated with Longevity and Aging in Adult Mosquitoes.</p> <p>PAUL SAMUEL LEVY, of Cambridge, Mass., B.S. Yale University, 1958; A.M. Columbia University, 1962. Biostatistics.<br/>The Combination of Unbiased Estimators.</p> |
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- EDWIN DAVID MELLITS, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1959. Biostatistics. Estimation and Design for Intersecting Regressions.
- RICHARD SPENCER PETERSON, of Hamilton, Mont., A. B. Dartmouth College, 1959. Pathobiology. Behavior of the Northern Fur Seal.
- ROGER L. PRIORE, of Buffalo, N. Y., B. A. (Psychology) The University of Buffalo, 1960; M. S. (Biostatistics), 1962. Biostatistics. A Method for Analyzing Tumor Response to Chemotherapy.
- MOSTAFA RAAFAT MAHMOUD EL-SAYED HAISHA, of Cairo, United Arab Republic, M. B., B. Ch. Cairo University, 1955; D. G. O., 1958. Pathobiology. Evaluation of Some Growth Potentials of Carefully Defined Carcinoma *in situ* of the Human Uterine Cervix in Tissue Culture.

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## MASTERS OF PUBLIC HEALTH

- MOHAMED MITWALLI AHMAD, of Baltimore, Md., M. B., Ch. B. Alexandria University, Egypt, 1951; D. G. O., 1957; D. S., 1963.
- JEANNE ELIZABETH ANDREWS, of Columbus, Wis., B. S. (Med. Sci.) The University of Wisconsin, 1948; M. D., 1950.
- JORGE ALBERTO BELLO, of Baltimore, Md., M. D. University of Buenos Aires, 1958; D. P. H., 1963.
- LAURENCE HENRY BLACKBURN, JR., of Washington, Conn., A. B. Princeton University, 1951; M. D. The Johns Hopkins University, 1955.
- GEORGE PEARSON BRANDEL, of Sharon Center, Ohio, B. S. United States Military Academy, 1956; M. D. Western Reserve University, 1962.
- CHUN-HIAN CHONG, of Sarawak, Malaysia, M. B., B. S. The University of Malaya, 1952.
- HANS CHRISTENSEN, of Nyon, Vaud, Switzerland, Cand. econ. University of Aarhus, Denmark, 1942.
- CONSTANTINO CHUAQUI J., of Santiago, Chile, M. D. University of Chile, 1952.
- RALPH DUDLEY COMER, of Washington, D. C., B. A. The University of Kansas, 1950; M. A., 1952; Ph. D. The Medical College of South Carolina, 1955; M. D., 1957.
- EARL MYLES COOPER, of Burlingame, Calif., B. C. S. in Banking and Finance New York University, 1932.
- CLAIRE M. COPPAGE, of Atlanta, Ga., B. S. in Nurs. Medical College of Virginia, 1952.
- ANNA MARIE CUNNINGHAM, of Bryn Mawr, Pa., B. S. Nurs. University of Pennsylvania, 1958.
- ROY LYNCH DEHART, of Oak Ridge, Tenn., B. S. The University of Tennessee, 1958; M. D., 1960.
- JAN L. DE VRIES, of Geneva, Switzerland, M. D. University of Amsterdam, 1953; D. T. M. & H. Institute of Tropical Medicine, Leiden, 1955.
- ADNAN HASHIM EL-DADAH, of Baltimore, Md., M. B., Ch. B. University of Baghdad, 1955.
- EMMETT B. FERGUSON, JR., of Augusta, Ark., M. D. The University of Oklahoma, 1959.
- EDUARDO GAITÁN M., of Bogota, Colombia, M. D. National University of Colombia, 1954.
- JUDITH MARIE GAY, of Baltimore, Md., B. S. Gordon College of Theology and Missions, 1957.
- JOSEPH KENNARD GEIGER, of Lansdowne, Pa., B. S. The Pennsylvania State University, 1952; M. D. University of Pennsylvania, 1956.
- RUDRA S. GIRI, of Katmandu, Nepal, M. B., B. S. University of Bihar, India, 1959.
- JOYCE EDNA GOGGIN, of Schenectady, N. Y., D. V. M. Washington State University, 1962.
- FREDDY ENRIQUE GONZALEZ-VALDIVIESO, of Maracay, Aragua, Venezuela, Civil Engineer Central University of Venezuela, 1963; M. S. E. The Johns Hopkins University, 1964.
- ANDRÉE JACQUELINE GUAY, of Providence, R. I., B. S. (Nursing) Brown University, 1960.
- SUSAN ELIZABETH HETHERINGTON, of Staten Island, N. Y., B. S. Nurs. University of Michigan, 1957.
- JAMES LEWIS HOOPER, of Gaithersburg, Md., B. S. University of Maryland, 1957; M. D., 1961.
- EDWARD W. HOPF, SR., of Baltimore, Md., B. S. Loyola College, 1950; M. D. University of Maryland, 1954.



- ABU TAYEB MOHAMMAD AMZAD HOSSAIN, of Panchibibi, Bogra, Pakistan, M. B., B. S. University of Karachi, 1963; D. M. C. H. The University of the Panjab, 1964.
- RICHARD KUO CHIH HSIEH, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1957; M. S. E., 1961.
- LOWELL RENNER HUGHES, of Baltimore, Md., B. A. Ohio Wesleyan University, 1950; M. D. The Ohio State University, 1954.
- GUILLERMO SAN DIEGO JUSTINIANO, JR., of Quezon City, Republic of the Philippines, M. D. University of Santo Tomas, 1953; C. P. H. University of the Philippines, 1958.
- EDWARD NAIM KASSIRA, of Baghdad, Iraq, M. B., Ch. B. University of Baghdad, 1959.
- A. F. M. ATIQUUR RAHMAN KHAN, of Mymensingh, Pakistan, M. B., B. S. University of Dacca, 1960; D. P. H. The University of the Panjab, 1964.
- KYUNG JA KIM, of Seoul, Korea, M. D. Soo Do Medical College, Korea, 1958.
- ALBERT CHRISTIAN KOLBYE, JR., of West Hyattsville, Md., A. B. Harvard University, 1957; M. D. Temple University, 1961.
- JOHN MARTIN KRAGER, of Baltimore, Md., B. S. Loyola College, 1948; M. D. University of Maryland, 1952.
- ROSEMARY BIRD LANE, of Baltimore, Md., B. A. The College of Wooster, 1956; M. D. The Johns Hopkins University, 1960.
- MARGARET ANN LIVENGOOD, of Pine Mountain, Ky., A. B. Smith College, 1935; M. D. Tufts University, 1951.
- LAWRENCE DEMAREE LUKIN, of Palm Springs, Fla., B. C. E. Polytechnic Institute of Brooklyn, 1949.
- ROBERT VAN GORDON MAGEE, of Dallas, Texas, B. S. in Medicine University of Arkansas, 1947; M. D., 1948.
- MAQBOOL HUSSAIN SHEIKH, of Lahore, Pakistan, M. B., B. S. The University of the Panjab, 1958; D. P. H., 1962.
- H. A. H. MASHAAL, of Baltimore, Md., M. B., Ch. B. Alexandria University, Egypt, 1950; D. T. M. & H., 1953.
- WILLIAM PAUL McELWAIN, of Owensboro, Ky., B. S. Murray State College, 1954; M. D. University of Louisville, 1958.
- E. J. McLAUGHLIN, of Port Charlotte, Fla., B. S. University of Dayton, 1945; M. D. University of Cincinnati, 1947.
- HSIEN-HWAI MENG, of Taipei, Taiwan, Republic of China, M. B. National Defense Medical Center, Taiwan, 1957.
- WILEY HENRY MOSLEY, of Baltimore, Md., B. A. Southwestern at Memphis, 1955; M. D. The University of Oklahoma, 1959.
- MARY ELIZABETH MURPHY, of Rockville, Md., B. S. in Ed. State Teachers College, Framingham, Mass., 1946; M. N. Yale University, 1949.
- FRED THOMAS NOBREGA, of Kansas City, Mo., B. S. Rockhurst College, 1956; M. D. University of Kansas, 1960.
- HENRY PARDOKO, of Surabaya, Indonesia, M. D. Airlangga University, Java, 1960.
- GHOLAM-REZA PEZESHIKIAN, of Baltimore, Md., M. D. University of Tehran, 1961.
- TEFRA RAMASOOTA, of Bangkok, Thailand, M. D. University of Medical Sciences, Thailand, 1957; M. P. H., 1960.
- LAURA MAE RANDAR, of Freeland, Pa., B. S. in Ed. Temple University, 1955.
- GLENDON ENNES RAYSON, of Oak Park, Ill., A. B. The University of Rochester, 1939; M. D. University of Illinois, 1948.
- WILLIAM MANNING REDMOND, of Mars, Pa., B. S. University of Pittsburgh, 1952; M. D., 1953.
- DANIEL FRYETT REYNOLDS, of Gambela, Ethiopia, B. A. Miami University, 1953; M. D. The Ohio State University, 1957.
- GEORGE WILEY ROBINSON, of Albany, N. Y., B. S. Florida Agricultural and Mechanical University, 1954; D. V. M. Cornell University, 1963.
- SEBSIBE ABEBE, of Addis Ababa, Ethiopia, B. Sc. Haile Sellassie I University, 1957; M. Sc. The University of Nebraska, 1961.
- PRITHPAL SINGH, of Alexandria, United Arab Republic, B. Sc. The University of the Panjab, 1935; M. B., B. S., 1942.
- EMORY JOHN SOBIESK, of Lyons, Ill., B. S. University of Illinois, 1959; M. D., 1961.
- GEORGE SOLOYANIS, of Baltimore, Md., B. A. New York University, 1949; M. S. The Pennsylvania State University, 1952; Ph. D., 1953.
- RITA THAPA, of Katmandu, Nepal, M. B., B. S. University of Lucknow, India, 1962.
- DAVID DWIGHT VAUSE, of Baltimore, Md., B. A. Duke University, 1956; M. D., 1961.
- WAHID-BUX WADHO, of Karachi, Pakistan, M. B., B. S. University of Karachi, 1956.
- MARTIN GILDER WEBB, JR., of Glenolden, Pa., M. D. Temple University, 1948.
- PYONG KAP YI (LEE), of Seoul, Korea, M. D. Catholic Medical College, Korea, 1961.

## DOCTORS OF PUBLIC HEALTH

*with titles of theses*

HARVEY R. FISCHMAN, of Baltimore, Md., B. A. Brooklyn College, 1941; D. V. M. Middlesex University, 1944; D. V. Ecole Nationale Veterinaire d'Alfort, France, 1950; M. P. H. The Johns Hopkins University, 1964. Pathobiology.

The Parainfluenza-3 Viruses. I. A Comparative Evaluation of Human and Bovine Strains. II. An Epidemiological Investigation of Parainfluenza-3 Infection in Sheep.

JEAN DUBOIS GALKIN, of Timonium, Md., B. S. (Nurs.) Syracuse University, 1948; M. P. H. Harvard University, 1955. Epidemiology.

A Survey of Clinic Outpatients: Sources of Medical Care Services.

INDER JIT SINGH THIND, of Chandigarh, Panjab, India, M. B., B. S. Panjab University, India, 1960; M. P. H. The Johns Hopkins University, 1963. Epidemiology.

Isolation and Characterization of an Attenuated Strain of Langat Virus from Chick Embryos.

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## MASTERS OF ARTS

*in The School of Advanced International Studies*

LAWRENCE SAMUEL AARONSON, of Washington, D. C., B. A. Earlham College, 1962.

SERGE ALEXANDRE, of Alexandria, Va., B. A. University of California, 1962.

GERRIT HENRY ARGENTO, of Huntington Valley, Pa., B. A. Harvard University, 1963.

JAMES ARTHUR BEREZIN, of Denver, Colo., B. S. F. S. Georgetown University, 1962.

DONALD BLACK, of Charleston, S. C., B. S. College of Charleston, 1952.

JAMES M. BOTTS, of Tulsa, Okla., B. A. Westminster College, Missouri, 1963.

WILLIAM J. BRISK, of Watertown, N. Y., A. B. Brown University, 1960; LL. B. New York University, 1965.

ELENITA ECKBERG BRODIE, of Lewisburg, Pa., B. A. Cornell University, 1963.

LAVINIA JOHANNE CHIECHI, of West Orange, N. J., B. S. F. S. Georgetown University, 1963.

ANNE CAROL CIPRIANI, of Albuquerque, N. Mex., B. S. F. S. Georgetown University, 1963.

JOYCE MARIE CREMERS, of Minneapolis, Minn., B. A. University of Minnesota, 1962.

WILLIAM GORHAM CRISP, of Staunton, Va., B. A. Virginia Military Institute, 1963.

CHESTER ARTHUR CROCKER, of Syosset, L. I., N. Y., B. A. Ohio State University, 1963.

EUGENE DE ANZORENA, of Mexico City, Mexico, B. A. College of William and Mary, 1963.

HENNER EHRLINGHAUS, of Ludenscheid, Germany, Referendar University of Freiburg, 1962.

JOSEPH CIRO FAZZIO, of New York, N. Y., B. A. University of Notre Dame, 1963.

SALLY ANN FLEENER, of Washington, D. C., B. S. F. S. Georgetown University, 1962.

ROGER W. FONTAINE, of Arlington, Va., B. A. Valparaiso University, 1963.

ANNA MARIA GENTILI, of Bologna, Italy, Laurea in Foreign Languages and Literature, University of Bologna, 1962.

ABBY LYNN GILBERT, of Melrose Park, Pa., B. A. Goucher College, 1962.

ELLEN BETTY GILBERT, of Melrose Park, Pa., B. A. Goucher College, 1962.

SARI JANE GILBERT, of New York, N. Y., B. A. Syracuse University, 1963.

WILLIAM STEPHEN GLADKOWSKI, of South Gate, Calif., B. A. University of Maryland, 1963.

APRIL CATHERINE GLASPIE, of Vancouver, B. C., Canada, B. A. Mills College, 1963.

SUNG HO HAHM, of Seoul, Korea, B. A. Elizabethtown College, 1961; B. A. George Washington University, 1963.

MARTIN ESH HARDY, of Driffield, Yorkshire, England, B. A. St. John's College, Cambridge, 1963.

- JULIE ELIZABETH HAWKINS, of Boulder, Colo., B. A. Pomona College, 1963.
- ROSLYN GEORGIA HEES, of Toronto, Ont., Canada, B. A. McGill University, 1963.
- BARBARA THIELMA HOFFMAN, of New Rochelle, N. Y., B. A. Brown University, 1963.
- MARY AGNES HOUGHTON, of Milwaukee, Wis., B. A. Marquette University, 1962.
- ELIZABETH PHILIPS HOWLAND, of Southport, Conn., B. A. University of Michigan, 1963.
- LOTHROP BREWSTER JACKSON II, of Memphis, Tenn., B. A. Dartmouth College, 1962.
- JAMES SINCLAIR JENKINS, of Philadelphia, Pa., A. B. Princeton University, 1960.
- PAUL ORTEGA JOLIS, of Paris, France, B. A. University of North Carolina, 1963.
- DENNIS EDWARD KENT, of Tampa, Fla., B. A. University of North Carolina, 1963.
- WALID KHADDURI, of Baghdad, Iraq, B. A. Michigan State University, 1963.
- THOMAS BRIAN KIRCHNER, of Big Rapids, Mich., B. A. Michigan State University, 1963.
- ROBERT HENRY KLEEB, of Wayne, Pa., B. A. Amherst College, 1958; LL. B. University of Pennsylvania, 1961.
- IRA RICHARD KORNBLUTH, of New York, N. Y., B. S. University of Wisconsin, 1962.
- KERRIE KATHLENE LAFONTAINE, of New York, N. Y., B. A. Syracuse University, 1963.
- ALOIS LEBLHUBER, of Niederneukirchen, Austria, Lic. College of World Trade, Vienna, 1962.
- RICHARD E. LERNER, of Lynbrook, L. I., N. Y., B. A. Miami University, 1963.
- ACKLYN RANDOLPH LYNCH, of Port-of-Spain, Trinidad, B. A. Harvard University, 1961.
- THEODORE MAEL, of Boston, Mass., B. A. University of Massachusetts, 1960.
- JAN MARTIN MATTHEWS, of College Park, Md., B. S. F. S. Georgetown University, 1962.
- JOSEPH HUGH MCFADDEN, of Ridgewood, N. J., B. A. Yale University, 1963.
- MANUEL G. MENDOZA, of Tampa, Fla., B. A. University of South Florida, 1963.
- CHARLES JUDD MICOLEAU, of Pleasantville, N. Y., B. A. Bowdoin College, 1963.
- ALBERT GRAEFF MILLER, of West Chester, Pa., B. A. Dickinson College, 1963.
- MICHAEL A. MORRIS, of Carbondale, Ill., B. A. Southern Illinois University, 1962; M. A. Middlebury College, 1963.
- KENNETH A. MYERS, of Vestal, N. Y., B. A. Colgate University, 1963.
- JUDITH ELLEN NIES, of Swampscott, Mass., B. A. Tufts University, 1962.
- MARVIN CHARLES OTT, of Northridge, Calif., B. A. University of Redlands, 1963.
- SCOTT R. PEARSON, of Baraboo, Wis., B. S. University of Wisconsin, 1961.
- ROSELYN KAY RANDLE, of Bessemer, Ala., B. A. Birmingham-Southern College, 1963.
- LUCIANO RAPISARDA, of Palermo, Italy, Dr. juris., University of Palermo, 1961.
- JUDITH CLAP RILEY, of New York, N. Y., B. A. Sarah Lawrence College, 1962.
- CHARLES RASKOB ROBINSON, of Avondale, Pa., B. A. Haverford College, 1962.
- RICHARD CLARK ROGERS, of Far Rockaway, N. Y., B. A. Harpur College, 1962.
- EMILINE OLIVIA ROYCO, of St. Louis, Mo., B. S. Northwestern University, 1961.
- FREDERIC TASKER, of Lake Odessa, Mich., B. A. Michigan State University, 1963.
- MAYNARD JOY TOLL, JR., of Los Angeles, Calif., B. A. Stanford University, 1963.
- FRANÇOIS R. VANDENPLAS, of Brussels, Belgium, Lic. St. Ignace Higher Institute of Commerce, Antwerp, 1963.
- TERRY WALZ, of Cairo, United Arab Republic, B. A. Brown University, 1963.
- TURA KATHLEEN WIELAND, of Arlington, Va., B. S. F. S. Georgetown University, 1962.



*DOCTORS OF PHILOSOPHY*  
*in The School of Advanced International Studies*  
*with titles of dissertations*

MANFRED LANDECKER, of Bridgeport, Conn., B. A. Syracuse University, 1952; M. A. School of Advanced International Studies, The Johns Hopkins University, 1953.  
 Presidential Leadership and Public Opinion: Two Case Studies.

MANFRED WILHELM WENNER, of Upper Montclair, N. J., B. A. Oberlin College, 1956; M. A. School of Advanced International Studies, The Johns Hopkins University, 1959.

Yaman since Independence: a Political Study 1918-1962.

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*DOCTORS OF MEDICINE*

JOHN CRAWFORD ADKINS, of Jackson, Ky., A. B. University of Kentucky, 1961.

MICHAEL HENRY COHEN, of Baltimore, Md., B. A. The Johns Hopkins University, 1961.

HARRY DEAN ALBERT, of Brooklyn, N. Y., B. A. The Johns Hopkins University, 1962.

HARRIET WILDMAN COUSSONS, of Oklahoma City, Okla., B. S. University of Oklahoma, 1961.

LEONARD BENNETT ALENICK, of Brooklyn, N. Y., A. B. Gettysburg College, 1961.

LEROY EVAN CUSTER, of Tucson, Ariz., B. A. Yale University, 1961.

ARNOLD JEROME ALTMAN, of Baltimore, Md., B. A. The Johns Hopkins University, 1961.

WILLIAM BRYANT CUTTS, of Providence, R. I., A. B. Harvard University, 1959; M. S. University of Illinois, 1961.

KARL ELMO ANDERSON, of Princeton, N. J., B. A. The Johns Hopkins University, 1962.

BRUCE EUGENE DAHLING, JR., of Lookout Mountain, Tenn., A. B. Vanderbilt University, 1961.

RICHARD CHARLES ARBOGAST, of S. Ft. Mitchell, Ky., B. A. Villa Madonna College, 1961.

IVAN ROY EASTWOOD, of Summerfield, Kans., A. B. University of Kansas, 1960.

DONALD FREDERIC BEAN, of Mineral Point, Wis., A. B. Beloit College, 1961.

WILFRED YORIO FUJIMOTO, of Hilo, Hawaii, B. A. The Johns Hopkins University, 1962.

ROLAND CLEMENT BLANTZ, of Portland, Oreg., B. A. The Johns Hopkins University, 1961.

DOUGLAS EUGENE GAASTERLAND, of Chevy Chase, Md., B. E. S. The Johns Hopkins University, 1960.

HENRY REID BOURNE, JR., of Danville, Va., A. B. Harvard University, 1960.

JOHN THOMPSON GARLAND, of Pittsburgh, Pa., B. A. Cornell University, 1961.

JOHN ARTHUR BRYANT, JR., of Baltimore, Md., B. A. The Johns Hopkins University, 1962.

JAMES CHAPMAN GIESKE, of Baltimore, Md., A. B. Princeton University, 1961.

CARMINE TIMOTHY CALABRESE, of Hoboken, N. J., B. S. Bethany College, 1961.

JUDITH PORTER GIESKE, of Lexington, Mass., B. A. The Johns Hopkins University, 1962.

HARRISON DWIGHT CAVANAGH, of Atlantic Beach, Fla., B. A. The Johns Hopkins University, 1962.

RONALD JOEL GLASSER, of Chicago, Ill., B. A. The Johns Hopkins University, 1961.

NATHAN HIRAM CARLINER, of Baltimore, Md., B. A., The Johns Hopkins University, 1961.

FRANCIS WILCOX GLUCK, JR., of Baltimore, Md., B. A. Williams College, 1961.



- DAVID GEORGE GREENFELD, of Baltimore, Md., B.A. The Johns Hopkins University, 1961.
- DENNIS KNIGHT HEFFNER, of Dodge City, Kans., B.A. University of Kansas, 1961.
- STANLEY JAY HELLER, of Philadelphia, Pa., B.A. The Johns Hopkins University, 1962.
- EDWARD YOSHIMASA HENJOJI, of Portland, Oreg., B.A. The Johns Hopkins University, 1961.
- GERALD ROSS HENSLEY, of Flagstaff, Ariz., B.S. University of Arizona, 1956.
- RICHARD JAMES HIRSCHMAN, of Mount Vernon, N.Y., B.A. The Johns Hopkins University, 1962.
- ROBERT STEPHEN HOLZMAN, of Flushing, N.Y., A.B. Rutgers University, 1961.
- PHILIP HOROWITZ, of Union, N.J., A.B. Rutgers University, 1961.
- JAY BERT JENSEN, of Gunnison, Utah, B.S. University of Utah, 1961.
- ALLEN DRESS JOHNSON, of Evansville, Ind., B.A. The Johns Hopkins University, 1962.
- ROBERT HOWARD JONES, of Hutchinson, Kans., B.S. Harding College, 1961.
- ROGER HENRY KAYE, of Yonkers, N.Y., A.B. New York University, 1961.
- JAMES SHERIDAN KELLEY, of Atlanta, Ga., A.B. Princeton University, 1961.
- ROBERT RUSSELL KENT, of Baltimore, Md., B.A. The Johns Hopkins University, 1961.
- PAUL WILLIAM KOHNEN, of Chicago, Ill., A.B. College of the Holy Cross, 1960; Ph.D. The Johns Hopkins University, 1964.
- MICHAEL EDWARD KOSTELNIK, of Bethlehem, Pa., B.A. Lehigh University, 1961.
- JOHN WALTER LACHER, of Boulder, Colo., B.A. University of Colorado, 1961.
- JEFFREY LEWIS, of Great Neck, N.Y., B.A. Tufts University, 1961.
- WEI-LI LI, of Berkeley, Calif., A.B. University of California, Berkeley, 1961.
- PHILIP OSBORNE LITTLEFORD, of Baltimore, Md., A.B. Swarthmore College, 1961.
- CLYDE HAMILTON McALLISTER, of Pittsburgh, Pa., A.B. Dartmouth College, 1961.
- CARL OWEN MEAD, of Rockford, Ill., B.S. Wheaton College, 1960; Ph.D. The Johns Hopkins University, 1964.
- JAMES WILLARD MILGRAM, of Brooklyn, N.Y., B.A. Columbia University, 1961.
- FRANK MARTIN OCHBERG, of New York, N.Y., A.B. Harvard University, 1961.
- JOHN CROSSAN O'DONOVAN, of Baltimore, Md., B.A. Yale University, 1961.
- ALAN EMIL OESTREICH, of Buffalo, N.Y., A.B. Princeton University, 1961.
- BYRON ALAN OLNEY, of Marathon, Iowa, B.A. State University of Iowa, 1961.
- MARILYNN WALLISER OLNEY, of Weirton, W.Va., B.S. Bethany College, 1961.
- EDWARD EUGENE PAGE, JR., of Tallahassee, Fla., B.S. University of Florida, 1961.
- TIM HENNESSY PARMLEY, of Wichita, Kans., B.A. The Johns Hopkins University, 1962.
- MARSHALL PHILIP PRIMACK, of Louisville, Ky., B.A. University of Louisville, 1961.
- MICHAEL DAYNE REYNOLDS, of Somerset, Pa., B.A. Princeton University, 1961.
- DANIEL GUY ROBINHOLD, of Camp Hill, Pa., A.B. Cornell University, 1961.
- DANIEL GEORGE ROTH, of Delray Beach, Fla., B.A. University of Florida, 1961.
- STEPHEN JOSEPH RYAN, of Chelsea, Mass., A.B. Providence College, 1961.
- GEORGE AUGUSTUS SCHEELE III, of Arlington, Va., B.A. Princeton University, 1961.
- LEONARD MARK SELSKY, of Lynn, Mass., A.B. Harvard University, 1961.
- KATE SEWALL, of South Bristol, Maine, B.A. Radcliffe College, 1961.
- IAN MARSHALL SHENK, of Washington, D.C., B.A. The Johns Hopkins University, 1962.
- ARTHUR KAUFMAN STRASBURGER, of Baltimore, Md., A.B. Princeton University, 1961.
- BARRY STUART STRAUCH, of Rockville Center, N.Y., B.A. The Johns Hopkins University, 1962.
- CHARLES HAROLD TAYLOR, JR., of Greenwich, Conn., B.A. The Johns Hopkins University, 1961.
- ROBERT SHARPE THOMPSON, of Chevy Chase, Md., A.B. Amherst College, 1961.
- WILMER LEIGH THOMPSON, JR., of Charleston, S.C., B.S. College of Charleston, 1957; Ph.D. Medical College of South Carolina, 1963.

- JOSEPH PAUL TOMASULO, of Baltimore, Md., B.A. The Johns Hopkins University, 1961.
- DANIEL B. TUERK, of East Patchogue, L.I., N.Y., B.A. The Johns Hopkins University, 1962.
- JANIS ANN GLICKSTEIN TUERK, of West Hartford, Conn., B.A. The Johns Hopkins University, 1962.
- BRIAN HOWARD VITSKY, of Richmond, Va., A.B. Washington and Lee University, 1961.
- ROBERT MERRILL WALTER, JR., of Highland Park, N.J., A.B. Rutgers University, 1961.
- MYRON LEE WEISFELDT, of Milwaukee, Wis., B.A. The Johns Hopkins University, 1962.
- JEAN WALTERS WEITZ, of Brooklyn, N.Y., B.A. The Johns Hopkins University, 1962.
- WILLIAM FRANKLIN WILLOUGHBY, of Matthews, Va., B.A. The Johns Hopkins University, 1957.
- WILLIAM ENGLAR WOODWARD, of Baltimore, Md., A.B. Princeton University, 1961.
- MICHAEL GOWEN WORTHINGTON, of Fort Lewis, Wash., B.A. The Johns Hopkins University, 1962.
- THOMAS WILLIAM ZIEGLER, of Phillipsburg, N.J., B.A. The Johns Hopkins University, 1961.
- THOMAS MICHAEL ZIZIC, of Milwaukee, Wis., B.S. University of Wisconsin, 1961.

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### *MASTERS OF ARTS IN TEACHING*

- KAREN SUTCLIFFE ADAMS, of East Windsor Hill, Conn., B.A. Pembroke College, 1964.
- GEORGE CYRIL ANDERSON, of San Diego, Calif., B.A. Williams College, 1963.
- JUDITH ISABEL ANDERSON, of Minneapolis, Minn., B.A. Rosary College, 1964.
- KIMBALL MONTAGUE BARNES, of Baltimore, Md., A.B. Princeton University, 1964.
- MARGARET ANN MANSFIELD BARNES, of Baltimore, Md., A.B. Vassar College, 1964.
- FLORA BARTH, of Washington, D.C., A.B. Connecticut College, 1964.
- GWENDOLYN ANNE BENNETT, of Dallas, Texas, B.A. William Marsh Rice University, 1964.
- CHARLES DUNLAP BENSON, of Maitland, Fla., A.B. Davidson College, 1960.
- MARGARET EMMA BEATRICE BOECKMANN, of Floral Park, N.Y., A.B. Barnard College, 1964.
- JENNIFER BLACKBURN BOLTON, of Monrovia, Calif., B.A. Pomona College, 1964.
- SUE CAROLYN BROWN, of Ann Arbor, Mich., B.S. The University of Michigan, 1964.
- PATRICIA JANE CAMPBELL, of Akron, Ohio, B.A. Wittenberg University, 1963.
- JOAN CANALE, of Memphis, Tenn., B.A. Rosary College, 1964.
- PATRICIA LOUISE CASEY, of Albany, N.Y., B.A. Manhattanville College of the Sacred Heart, 1963.
- BARBARA ELIZABETH CLARK, of Lincoln, Nebr., B.A. Wellesley College, 1964.
- JOAN ELIZABETH CLARK, of Baltimore, Md., A.B. Earlham College, 1961.
- BRIAN EDBROOKE DAVIS, of Berkeley, Calif., A.B. University of California, Berkeley, 1963.
- MARY ALICE EVANS, of Sac City, Iowa, A.B. Oberlin College, 1962.
- HARVEY HEYWOOD FENIGSOHN, of Newport News, Va., B.A. University of Virginia, 1962.
- STEPHEN MICHAEL FORTSON, of Stanwood, Wash., B.A. Whitman College, 1962.
- DAVID ALAN FRANZ, of Lansdowne, Pa., A.B. Princeton University, 1964.
- JEAN DUVAL GANTT, of Gloucester Point, Va., A.B. Sweet Briar College, 1962.
- DONALD EARL GROFF, of Strassburg, Pa., B.S. The Pennsylvania State University, 1960.
- NICOLE KIMBALL GROFF, of Waldoboro, Maine, B.A. University of Maine, 1963.
- NANCY SUSAN GROSS, of Pittsburgh, Pa., A.B. University of Pittsburgh, 1963.
- CORNELIUS LEE GROVE, of Midland Park, N.J., B.A. The Johns Hopkins University, 1963.
- LYNN ANDREA GUSTAFSON, of Rockford, Ill., B.S. Beloit College, 1964.

- SANDRA JEANNE HALL, of Bellevue, Wash., B. A. Pomona College, 1964.
- JOHN RICHARD HAWLEY, of Dallas, Texas, A. B. Harvard University, 1964.
- SANDRA LEE HEIMER, of Jamaica, N. Y., A. B. Barnard College, 1964.
- GRACE ELIZABETH HUGHES, of Claremont, Calif., B. A. San Francisco College for Women, 1964.
- CONSTANCE RICHARDS HUNTER, of Hutchinson, Kans., B. A. University of Kansas, 1963.
- JOAN ELLIS KNIGHT, of Newton Centre, Mass., A. B. Vassar College, 1961.
- MELINDA ANN KUNTZ, of Columbus, Ohio, A. B. Oberlin College, 1964.
- MARY LEE, of Baytown, Texas, B. A. William Marsh Rice University, 1964.
- MARY HUGHES McCUE, of Liberal, Kans., B. A. The University of Kansas, 1962.
- JUDITH ELLEN MESII, of Nichols, N. Y., B. A. Hartwick College, 1964.
- GILBERT JOSEPH MILAN, of Baltimore, Md., B. A. Lehigh University, 1962.
- ELIZABETH ANN MOLL, of Buffalo, N. Y., A. B. Cornell University, 1964.
- SALLY BAYARD OAKES, of Islip, L. I., N. Y., B. A. Wellesley College, 1964.
- MOKHTAR OWAYSEE-OSQUI, of Tabriz, Iran, B. A. University of Tabriz, 1963.
- CARRIE RENNIE PAINTER, of Bristol, Va., A. B. King College, 1963.
- HAROLD FRANCIS PALMER, of Bronx, N. Y., B. M. E. Manhattan College, 1964.
- JOHN FREDERICK PETERS, of Baxter Springs, Kans., B. A. The University of Kansas, 1964.
- PEGGY SUE ROBINSON, of Houston, Texas, B. A. William Marsh Rice University, 1964.
- JOAN MARJORIE SACK, of Springfield, Mass., A. B. Smith College, 1964.
- SUSAN HELEN SALOT, of Arlington, Va., A. B. Mt. Holyoke College, 1964.
- PETER ARNLD SCHORR, of Point Pleasant Beach, N. J., A. B. Rutgers University, 1964.
- MARTIN NORMAN SCHULMAN, of Brooklyn, N. Y., B. A. Brooklyn College, 1964.
- BARBARA CAHALL SCOTT, of Morrisville, Pa., A. B. Mt. Holyoke College, 1964.
- RUTH LOIS SHAW, of Philadelphia, Pa., A. B. Wilson College 1964.
- CAROLYN TUFTS SHURMAN, of Great Neck, N. Y., A. B. The University of Michigan, 1963.
- KERRY DAWSON WARD, of Chevy Chase, Md., B. A. University of Maryland, 1959.
- LINDA LITHGOW WARREN, of Chevy Chase, Md., A. B. Goucher College, 1962.
- GAIL WHITE, of New Rochelle, N. Y., B. A. Reed College, 1963.
- SHEILA WINTERS, of Bridgehampton, L. I., N. Y., B. A. Marymount College, New York, 1964.

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## MASTERS OF ARTS

### *with titles of essays*

- LOUIS CHARLES ADAMO, of Washington, D. C., B. S. The George Washington University, 1962. Oceanography.  
Salinity Distribution at 80 cl/t of Potential Specific-Volume Anomaly in Eastern East Indian Waters.
- ANN HERSEY ALLISON, of Lutherville, Md., A. B. Duke University, 1941. Art.  
The Coronation of the Virgin by Tullio Lombardo.
- JEAN HOGARTH HARVEY BAKER, of Baltimore, Md., B. A. Goucher College, 1961. History.  
Dark Lantern Crusade—An Analysis of the Know Nothing Party in Maryland.
- RANDOLPH BARTON, JR., of Wilmington, Del., A. B. Princeton University, 1963. Chemistry.
- CHARLOTTE ALICE KARREN BECK, of Baltimore, Md. German.



- RITA MARIE BEILHARZ, of Los Gatos, Calif., B. A. Dominican College of San Rafael, 1964. English.
- DANIEL RANDALL BEIRNE, of Baltimore, Md., B. S. The United States Military Academy, 1948. Geography.  
Pre-Columbian Diffusion from the Near and Middle East to South and Central America: A Study of Early Axes.
- ERIC A. BELGRAD, of Baltimore, Md., B. A. The Johns Hopkins University, 1958. Political Science.  
Machiavelli's Justifications of the Resort to Force and Their Misinterpretations in Sixteenth-Century France.
- JEAN LORRAINE HEDLER BENSON, of Baltimore, Md., A. B. University of Michigan, 1944. Writing Seminars.  
A Portion of a Novel.
- HERBERT HASKELL BLUMBERG, of Baltimore, Md., B. A. Haverford College, 1963. Psychology.  
Evaluation of Rating-Scale Formats.
- WILLIAM BACHE BROWN, of Bismarck, N. Dak., B. A. St. John's University, Minnesota, 1964. Writing Seminars.  
*The Nails of Words: Poems.*
- GLENN ALBERT CANNON, of Baltimore, Md., B. S. Drexel Institute of Technology, 1963. Oceanography.  
Tropical Waters in the Western Pacific Ocean, August-September 1957.
- BARBARA HARRELL CARSON, of Cocoa, Fla., B. A. The Florida State University, 1964. English.
- CHARLES EDWARD CAYTON, of Claremont, Calif., B. A. Claremont Men's College, 1962. Political Science.  
Recent Developments in the Doctrine of Political Questions.
- CAROLYN JANICE CHERRY, of Oklahoma City, Okla., B. A. University of Oklahoma, 1964. Classics.
- SISTER M. GERTRUDE CHRISTIAN, S. S. J., of Rochester, N. Y., B. A. Nazareth College of Rochester, 1961. English.
- MURRAY ALAN COHEN, of Baltimore, Md., B. A. The Johns Hopkins University, 1963. English.
- ROSALIND NORMA CONN, of Pikesville, Md., B. A. Bryn Mawr College, 1962. Writing Seminars.  
*A Collection of Short Stories and Poetry.*
- WILLIAM JAMES COOPER, JR., of Kingstree, S. C., A. B. Princeton University, 1962. History.
- KENNETH NICHOLAS CUPERY, of Wilmington, Del., A. B. Oberlin College, 1959. Physics.  
Utilization of Laser Radiation for Plasma Diagnostics.
- LYNN SUSAN VALUCHEK DE BEER, of Staten Island, N. Y., B. A. Wellesley College, 1963. Writing Seminars.  
*Solitaire: A Novella.*
- LEE RICHARD DEBOW, of Davenport, Iowa, B. A. Northwestern University, 1962. Chemistry.
- KENT HOOKER DIXON, of Miami, Fla., B. A. The University of North Carolina, 1964. Writing Seminars.  
*Three Stories and a Screenplay.*
- MARSHA JOAN JENKINS DOHRMANN, of San Francisco, Calif., A. B. University of California, Berkeley, 1962. Art as Applied to Medicine.  
The Crypts of Lieberkuhn as They Relate to the Villi of the Small Intestines.
- LESTER ARTHUR DOLAK, of Joliet, Ill., B. A. The Johns Hopkins University, 1963. Chemistry.
- MICHAEL FRANCIS DONNELLY, of Kansas City, Mo., A. B. Rockhurst College, 1963. Chemistry.
- JEANNE LEAH HORWITZ FERTEL, of New York, N. Y., B. S. in Physics, Massachusetts Institute of Technology, 1964. Chemistry.
- ROBERT JOHN FIRESTONE, of New Haven, Conn., B. S. Rensselaer Polytechnic Institute, 1962. Psychology.  
Training Method and Mean Volume of Reinforcement per Response as Determinants of Instrumental Licking Rates.
- EARL WILLARD FRIEND, JR., of Mill Run, Pa., B. A. Washington and Jefferson College, 1962. Chemistry.
- GILBERT GEIGER FRITZ, of Arlington, Va., B. A. The Johns Hopkins University, 1964. German.
- VIVIAN BRUCE FRITZ, of Newark, N. J., B. A. Drew University, 1964. German.
- SAREL PAULETTE FUCHS, of Baltimore, Md., B. A. Notre Dame of Maryland, 1964. Classics.
- TIMOTHY FULLER, of Evanston, Ill., B. A. Kenyon College, 1962. Political Science.  
Utility, Equality, and the Concept of Justice in Mill's Utilitarianism.
- ROBERT LEE GARTEN, of Baltimore, Md., A. B. Gettysburg College, 1963. Chemistry.
- MARVIN HASKEL JACK GRUBER, of Passaic, N. J., B. S. Brooklyn College, 1962. Mathematics.
- MADELEINE NOEMI GENEVIEVE GUENSER, of Paris, France, Lic. ès L. University of Paris, 1953. Romance Languages.
- SURENDRA KUMAR GUPTA, of Dehra Dun, India, B. A. Agra University, 1957; M. A. University of Lucknow, 1959. History.
- CECELIA LOUISE HALBERT, of Washington, D. C., B. A. The Pennsylvania State University, 1964. English.
- JOYCE EDNA HALLISEY, of Belmont, Mass., A. B. Emmanuel College, 1963. Writing Seminars.  
*The Projectionist's Daughter: A Collection of Poems.*

- ROHIT HANDA, of New Delhi, India. Political Economy.  
Structural Changes in the Agrarian Sector of India  
(1947-1960) and China (1949-1960).
- EDWARD FRANCIS HAYES, of Endwell, N.Y., B.S. The Uni-  
versity of Rochester, 1963. Chemistry.
- SARAH JEAN HAYES, of Washington, D.C., A.B. Mt.  
Holyoke College, 1964. Writing Seminars.  
*Stories, Poetry, and a Translation.*
- DAVID RONALD LACEY HEALD, of Surbiton, Surrey, England,  
B.A. London University, 1964. German.
- STANLEY WARREN HEIM, of Baltimore, Md., A.B. Muhlen-  
berg College, 1961. Writing Seminars.  
*Moments of Reckoning: A Selection of Short Stories.*
- ADELE VIRGINIA HOLDEN, of Baltimore, Md., A.B. Morgan  
State College, 1940. Writing Seminars.  
*Prelude to Poetry.*
- PAUL THORFINN HOPPER, of Washington, D.C., B.A.  
Haverford College, 1964. German.
- PHILIP MACMANNUS HOWE, of Wolfeboro, N.H., B.S.  
Worcester Polytechnic Institute, 1963. Chemistry.
- HAROLD NORMAN INGLE, of Cockeysville, Md., B.A. The  
Johns Hopkins University, 1964. International Studies.  
The Principle of the Freedom of the High Seas and  
the Exploitation of the Living Resources of the  
High Seas in Soviet Legal Theory and Practice.
- ROBERT ALEXANDER INNES, of Upland, Calif., B.A. Uni-  
versity of Connecticut, 1963. Chemistry.
- DAVID JOSEPH JEFFERY, of Baltimore, Md., B.A. Yale Uni-  
versity, 1960. Writing Seminars.  
*Four Stories.*
- BRENDA S. JONAS, of New York, N.Y., B.S. Syracuse Uni-  
versity, 1960. Biophysics.
- JOHN WESLEY JONES, of Williamsburg, Ky., A.B. University  
of Kentucky, 1963. Writing Seminars.  
*Topographies: A Selection of Poems.*
- MARION REBECCA JUST, of Brooklyn, N.Y., A.B. Barnard  
College, 1963. Political Science.  
Interest Articulation in Great Britain and France:  
The Application and Utility of Functional Analysis.
- MICHAEL JOHN KARWEIT, of La Canada, Calif., B.A.  
University of California, Santa Barbara, 1962. Social  
Relations.
- BERNARD MELVIN LORNE KATZ, of Toronto, Ont., Canada,  
B.A. University of Toronto, 1964. Writing Seminars.  
*A Coat of Many Colours: A Collection of Poetry, Prose  
and Translations.*
- PATRICIA KELLY, of Los Angeles, Calif., A.B. University of  
Redlands, 1964. German.
- PATRICIA ANNE KENNY, of Pittsburgh, Pa., B.S. Mary  
Washington College, 1961. Art as Applied to Medicine.  
The Human Eccrine Sweat Gland.
- ESTHER ROCHELLE KINGSTON, of Detroit, Mich., A.B.  
Antioch College, 1961. History.
- MICHAEL SERGE KISCHNER, of New York, N.Y., B.A.  
Kenyon College, 1962. English.
- WILLIAM HENRY LANGUTH, of Ellicott City, Md., B.A. New  
York University, 1944; M.D., 1947. Writing Seminars.  
*Sojourns and Eleven Letters from the Old Cantonese:  
A Poem.*
- RICHARD AUGUSTINE LEISTER, of Union, N.J., B.A. St.  
Peter's College, 1964. German.
- KATHARINE STUART LOWRY LIVINGSTON, of Baltimore, Md.,  
A.B. Goucher College, 1964. German.
- BEVERLY DIANE MACK, of Jackson Heights, N.Y., B.S.  
Columbia University, 1964. Writing Seminars.  
*Thou-oughts: A Collection of Poems.*
- PAUL THOMAS MARAMALDI, of Hoboken, N.J., B.A. St.  
Peter's College, 1964. German.
- MICHAEL THOMAS MARRON, of Glenview, Ill., B.S. Uni-  
versity of Portland, 1964. Chemistry.
- DONALD ARTHUR MARSDEN, of Amityville, L.I., N.Y., A.B.  
Princeton University, 1964. English.
- VICTOR MANUEL MATOS-HERNÁNDEZ, of Utuado, Puerto  
Rico, B.A. University of Puerto Rico, 1963. English.
- GARY DAVID MATTHEWS, of Chagrin Falls, Ohio, B.S. The  
United States Naval Academy, 1957. Physics.  
A Survey of K, L, and M X-Ray Absorption Limit  
Measurements.
- REDMOND JAMES MCGOLDRICK, S.J., A.B. Woodstock  
College, 1944; M.A.T., 1946; S.T.B., 1952. Writing  
Seminars.  
*Be Kinder to Narcissus, and Other Verse.*
- JANET BURNHAM FOWLE McLANAHAN, of Marblehead, Mass.,  
B.S.Ed. Tufts University, 1960. Education.  
Sex-Differences and Their Relationship to Emotional  
Disturbance in Pre-school Children.
- ROBERT DANIEL MENAKER, of Nyack, N.Y., B.A. Swarth-  
more College, 1963. English.
- FOWLER NOEL MERIAM, of Baltimore, Md., B.A. St. John's  
College, Maryland, 1963. Writing Seminars.  
*Notes from a Distant Comedian: Poems.*
- JOHN HAYS MOORE, JR., of Baltimore, Md., B.S. in Math  
Carnegie Institute of Technology, 1963. Chemistry.



- DAVID FARNHAM MUNRO, of Fulton, Md., B. A. The Johns Hopkins University, 1964. Chemistry.
- ELAINE MARKS MURPHY, of Baltimore, Md., B. A. Marquette University, 1962. Writing Seminars.  
*The Photo Album: A Collection of Poems.*
- SYDNEY HAROLD NATHANS, of Houston, Texas, B. A. William Marsh Rice University, 1962. History.
- PATRICIA RUPPERT NELSON, of Baltimore, Md., B. A. American University, 1960. Political Science.  
John Marshall Harlan: Preparation for a Judicial Career.
- SUSAN FULKERSON O'CONNOR, of Towson, Md., B. A. Wake Forest College, 1963. English.
- JEROME MARVIN PARIS, of Fair Lawn, N. J., B. A. Reed College, 1964. English.
- PHILIPPE ROGER PEREBINOSOFF, of Nutley, N. J., B. A. Marietta College, 1964. Writing Seminars.  
*Six Short Stories.*
- FRANCIS PIEJKO, of Baltimore, Md., M. S. in L. S. Syracuse University, 1960. Classics.
- WILLIAM SCOTT REEBURGH, of Port Arthur, Texas, B. S. in Chem. University of Oklahoma, 1961. Oceanography.  
Measurements of the Electrical Conductivity of Sea Water.
- LOUIS ANTHONY REILE, of St. Louis, Mo., B. A. St. Mary's University, 1949. Writing Seminars.  
Winding River, Stories and a Novel.
- KENNETH RAY RHOADES, of Baltimore, Md., B. A. Western Washington College of Education, 1960; M. A. Arizona State University, 1963. English.
- JONATHAN PAUL RODEHEFFER, of St. Marys, Ohio, A. B. Oberlin College, 1964. German.
- DONALD KARL ROSENBERG, of Akron, Ohio, A. B. Princeton University, 1964. English.
- MYRA DEE ROSNER, of Brooklyn, N. Y., B. A. Brooklyn College, 1964. Classics.
- DIETER SAALMANN, of Baltimore, Md., B. A. Northwestern State College of Louisiana, 1963. German.
- MICHAEL ABRAHAM SAND, of Bronx, N. Y., B. A. Swarthmore College, 1964. English.
- CARSTEN EMIL SEECAMP, of New Haven, Conn., B. S. Southern Connecticut State College, 1964. German.
- RAYMOND CARLTON SEITZ, of Towson, Md., B. A. St. John's College, Maryland, 1962. Oceanography.  
A Review of the Theory of Turbulence in the Ocean and an Examination of Its Relation to Practical Observation at Sea.
- MARTIN JOSEPH SHEA, of New York, N. Y., B. A. Manhattan College, 1963. Writing Seminars.  
*The Candidate: A Play.*
- STEWART MICHAEL SINGER, of Scarsdale, N. Y., A. B. Harvard University, 1962. Physics.  
A Photographic Study of the Helium Metastable Absorption for the  $2^3S-3^3P$  Transition.
- YEHUDA (WEISS) SIVAN, of Tel-Aviv, Israel. Political Economy.  
Personal Credit and the Level of Consumption.
- JOSEPH TAYLOR SKERRETT, JR., of Laurelton, N. Y., B. A. Saint Francis College, 1964. Writing Seminars.  
*The Second Purlieu: A Collection of Stories and a Play.*
- GRACE SUZANNE KOLISCH SONDE, of Washington, D. C., B. A. The City College of New York, 1962. German.
- ALAN LOWELL SORKIN, of Hyattsville, Md., B. A. The Johns Hopkins University, 1963. Political Economy.  
The General Agreement on Tariffs and Trade—an Economic Appraisal.
- ANTHONY THOMAS STAMATO, of Philadelphia, Pa., B. A. La Salle College, 1964. English.
- MICHAEL STEPHEN STEINBERG, of New York, N. Y., B. A. Cornell University, 1962. History.
- LAWRENCE DUNCAN STOKES, of Toronto, Ont., Canada, B. A. University of Toronto, 1962. History.
- FREDERICK ANTHONY STUART, of Harvey, Ill., A. B. Wheaton College, 1964. Writing Seminars.  
*Poems and One Story.*
- ELIJAH SWIFT V, of Baltimore, Md., B. A. Swarthmore College, 1960. Oceanography.  
Experiments with Cricosphaera.
- JOHN ERIC TAVELA, of Wauwatosa, Wis., B. A. Dartmouth College, 1964. English.
- JOHN PETER TRASKEY, of Washington, D. C., B. A. St. John's University, Minnesota, 1964. Writing Seminars.  
*The Jester* (part of a novel) and *A Good Soldier* (a short story).
- LUCY HSIU-MEI CHEN TUANN, of Taipei, Taiwan, Republic of China, B. A. National Taiwan University, 1961. Writing Seminars.  
*Sight of Paradise: A Portion of a Novel.*
- MARION LESLEY TURNBULL, of Baltimore, Md., A. B. Goucher College, 1964. Classics.
- SIVARAMIAH V. VENKATARAMA RAO, of Davangere, India, B. Sc. University of Mysore, 1956; M. Sc., 1959. Chemistry.



GEOFFREY STEPHEN WEINMAN, of Bronx, N. Y., A. B. Hunter College, 1964. English.

JUDITH BOERINGA WEISS, of W. Hyattsville, Md., A. B. Knox College, 1961. History.

The Central Agricultural Society 1835-40.

MICHAEL LAWRENCE WEISS, of Whitestone, N. Y., A. B. Knox College, 1964. Writing Seminars.

*Five Short Stories.*

NANCY LOU WILEY, of Palos Heights, Ill., B. A. Lawrence College, 1964. Writing Seminars.

*Short Stories and Poems.*

JOHN JAY WELTMAN, of Cedarhurst, N. Y., B. A. The Johns Hopkins University, 1963. International Studies.

Two Periods of Naval Technology: Parallelisms and Dissimilarities.

HOWARD JOSEPH WHITEHILL, JR., of Mardela Springs, Md. Writing Seminars.

*Precious Little: A Novel.*

BLANCHE WIESEN, of Flushing, N. Y., A. B. Hunter College, 1962. History.

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## DOCTORS OF PHILOSOPHY

*with titles of dissertations*

GARY KEITH ACKERS, of Baltimore, Md., B.S. Harding College, 1961. Physiological Chemistry.

The Molecular Sieve Technique as an Analytical Tool for the Study of Protein Systems.

JAMES WILSON ALEXANDER, of Frederick, Md., B. A. Dartmouth College, 1955; M. S. The University of Wisconsin, 1956. History.

Herbert de Losinga, Bishop of Norwich, 1091-1119.

RICHARD COVAL ALEXANDER, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1961. Mechanics.

Self-Similar Hydrodynamics with Vortex Sheets.

VAN CLEAF BACHMAN, of Short Hills, N. J., B. A. Princeton University, 1961. History.

Peltries or Plantations? The Economic Policies of the Dutch West India Company in New Netherlands, 1623-1639.

GUY ERROL BARASCH, of Baltimore, Md., B. A. The Johns Hopkins University, 1958. Physics.

Fluorescent Lifetimes of and Energy Transfer between Excited States of Rare Earth Ions in Crystals.

LEONARD STANTON BASKIN, of Middletown, Conn., B. S. Trinity College, Connecticut, 1959. Physiological Chemistry.

Sedimentation and Translational Diffusion of Some Isoionic, Salt-free Proteins.

MILLARD FILLMORE BEATTY, JR., of Newark, Del., B. E. S. The Johns Hopkins University, 1959. Mechanics.

Some Static and Dynamic Implications of the General Theory of Elastic Stability.

MANDELL BELLMORE, of Bowie, Md., B. S. University of Maryland, 1957; M. E. E. The Catholic University of

America, 1961. Operations Research and Industrial Engineering.

Optimum Allocation of Resources in a Communication Network.

ROBERT STEWART BENNETT, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1958. Electrical Engineering.

The Intrinsic Dimensionality of Signal Collections.

JEAN JACQUES HENRI BERLIJN, of Baltimore, Md., Candidate, University of Leiden, 1956. Physics.

Nuclear Polarization in the  $B^{11}(d,p)B^{12}$  Reaction.

KENNETH IRA BERNS, of Shaker Heights, Ohio, B. A. The Johns Hopkins University, 1960. Biology.

The Isolation and Characterization of High Molecular Weight DNA from *Hemophilus influenzae*.

MICHAEL ANTHONY BERTA, of New Kensington, Pa., B. S. Allegheny College, 1961; M. A. The Johns Hopkins University, 1963. Chemistry.

The Reaction of the  $HD^+$  Ion with Various Rare Gases.

GIAN-PAOLO BIASIN, of Sassuolo, Italy, Laurea in Juris. University of Modena, 1956; M. A. Syracuse University, 1958. Romance Languages.

Cesare Pavese.

LEWIS ARNOLD BICKING, of Phoenixville, Pa., B. A. University of Pennsylvania, 1961. Biophysics.

Some Quantitative Studies on Retinal Ganglion Cells.

JAMES ARTHUR BONAR, of Farmingdale, N. Y., B. A. Drew University, 1957; M. A. The Johns Hopkins University, 1960. History.

Benjamin Rush and the Theory and Practice of Republican Education in Pennsylvania.

- FRANKLIN LOUIS BORCHARDT, of New York, N.Y., B.A. St. Peter's College, 1960; M.A. The Johns Hopkins University, 1962. German.  
Renaissance Myths of the German Past and Their Sources, Primarily in the Middle Ages.
- DON LAMAR BOYER, of Valley View, Pa., B.S. Rensselaer Polytechnic Institute, 1960. Mechanics.  
Flow through a Rapidly Rotating Rectangular Channel.
- RAÚL CHAO GALDO, of Havana, Cuba, B.S.Ch.E. University of Puerto Rico, 1961. Chemical Engineering.  
Simultaneous Axial Dispersion and Mass Transfer in a Packed Bed Reactor.
- MICHAEL CHEILIK, of New York, N.Y., B.A. The City College of New York, 1959; M.A. The Johns Hopkins University, 1962. Classics.  
*Opus Albarium*: Chronology of Roman Stucco Reliefs in Italy.
- WILLIAM OLIVER CHITTICK, of Brookings, S. Dak., B.S. South Dakota State College of Agriculture and Mechanic Arts, 1959. Political Science.  
The Domestic Information Activities of the Department of State.
- CORODON SCOTT CLARK, of West Henrietta, N.Y., B.S. Antioch College, 1961; M.S.E. The Johns Hopkins University, 1963. Sanitary Engineering and Water Resources.  
The Oxidation of Coal Mine Pyrite.
- KAREN COTZIN COHEN, of Baltimore, Md., A.B. Radcliffe College, 1963; M.A. The Johns Hopkins University, 1964. Education.  
Reactions of Students to Receiving Grades.
- MICHAEL FREDERICK COLLINS, of Baltimore, Md., A.B. Brown University, 1959. Biology.  
Electrokinetic Properties of Some Embryonic Cell Surfaces.
- ALFRED JAMES CORDES, of Oxford, Ohio, B.A. Xavier University, 1954; M.A. The Johns Hopkins University, 1956. Romance Languages.  
God, Man, and the Wind, Saint-Exupéry Symbolist.
- CHATTEN COWHERD, JR., of Baltimore, Md., A.B. Rockhurst College, 1960. Chemical Engineering.  
The Kinetics of Fast Interfacial Reactions in Laminar Tube Flow.
- JAMES BENEDICT CROOKS, of Glen Rock, N.J., B.A. Yale University, 1957; M.A. The Johns Hopkins University, 1962. History.  
Politics and Progress: The Rise of Urban Progressivism in Baltimore, 1895 to 1911.
- TRAVIS LEE CROSBY, of Weslaco, Texas, B.A. The University of Texas, 1959. History.  
English Agricultural Politics 1815-25.
- RAYMOND JOSEPH CUNNINGHAM, of Brooklyn, N.Y., B.A. Fordham University, 1954; M.A. Rutgers University, 1955. History.  
Ministry of Healing.
- RICHARD FRANCIS DAVID, of Baltimore, Md., B.S. in E.E. St. Louis University, 1960. Electrical Engineering.  
Angular Dependence of Paramagnetic Relaxation Rates: Doublet  $T_2$  States in Rhombic Fields.
- CYNTHIA SHELDON DESSEN, of Madison, Wis., B.A. Oberlin College, 1960; M.A. The Johns Hopkins University, 1962. Classics.  
The Satires of Persius: A Poetic Study.
- CHARLES BURGESS DEW, of St. Petersburg, Fla., A.B. Williams College, 1958. History.  
Southern Industry in the Civil War Era: Joseph Reid Anderson and the Tredegar Iron Works, 1859-67.
- EUGENIO UMBERTO DONATO, of Baltimore, Md., M.A. The Johns Hopkins University, 1962. Romance Languages.  
From Marivaux to Voltaire; an Essay in the Definition of a Literary Style.
- EDGAR AFTON DRYDEN, of Baltimore, Md., B.A. Washington College, 1959; M.A. in English, University of Rhode Island, 1961. English.  
Herman Melville's Narrators and the Art of Fiction: A Study in Point of View.
- JOHN ERIC EDINGER, of Kingston, N.Y., B.C.E. Union College, New York, 1960; M.S.E. The Johns Hopkins University, 1961. Sanitary Engineering and Water Resources.  
Heat Exchange in the Environment.
- JOSEPH FAINBERG, of Baltimore, Md., A.B. University of Chicago, 1950; S.B. 1951; S.M. 1953. Electrical Engineering.  
Scattering of Electromagnetic Waves from Metal Edges.
- \*\*JOHN CHRISTOPHER FARRELL, of State College, Pa., B.A. Yale University, 1955. History.  
'Beloved Lady': A History of Jane Addams' Ideas on Reform and Peace.
- EDWARD RICHARD FISHER, of Baltimore, Md., B.S. University of California, Berkeley, 1961. Chemical Engineering.  
A Study of the Reaction of Electronically Excited Oxygen Molecules with Carbon Monoxide.

\*\* Posthumously



- GARY DUANE FISHER, of Houston, Texas, B. S. Ch. E. The University of Texas, 1957. Chemical Engineering.  
Study of the Aerodynamics of a Lifted Flat Flame.
- MARIE GLORIA FLAHERTY, of Kearny, N. J., B. A. Rutgers University, 1959; M. A. The Johns Hopkins University, 1960. German.  
In Defense of the Opera: A Survey of German Critical Writings on Opera from 1678 to 1770.
- ROLAND EDWARD FLEISCHER, of Phoenix, Md., A. B. Western Maryland College, 1952; M. A. The Johns Hopkins University, 1954. Art.  
Gustavus Hesselius.
- DANIEL JOSEPH GEAGAN, of Watertown, Mass., B. S. Boston College, 1959. Classics.  
The Athenian Constitution after Sulla.
- GERALD SAUL GOTTERER, of Baltimore, Md., A. B. Harvard University, 1955; M. D. The University of Chicago, 1958. Physiological Chemistry.  
A Study of the Role of Lipid in the Activation of D-Beta-Hydroxybutyrate Dehydrogenase.
- KEITH MAURICE GREENWOOD, of Jamestown, N. Y., A. B. Hobart College, 1948; A. M. Columbia University, 1954. History and American Literature.  
Robert College: The American Founders.
- MAURICE JEAN GROLIER, of Baltimore, Md., B. S. in Geology, University of Washington, 1955. Geology.  
Geology of the Big Bend Area, in the Columbian Plateau, Washington.
- HERSCHEL IVAN GROSSMAN, of Baltimore, Md., B. A. University of Virginia, 1960; Ph. B. University of Oxford, 1962. Political Economy.  
Public Assets and Liabilities in a Macro-Economic Model.
- WILLIAM FRANKLIN HAMMOND, of Baltimore, Md., A. B. Harvard University, 1961. Mathematics.  
The Modular Groups of Hilbert and Siegel.
- LAWRENCE ALEXANDER HARDIE, of Durban, Natal, South Africa, B. Sc. University of Natal, 1955; B. Sc. Honours 1956; M. Sc. 1959. Geology.  
Phase Equilibria Involving Minerals of the System  $\text{CaSO}_4\text{--Na}_2\text{SO}_4\text{--H}_2\text{O}$ .
- CARL GIRVIN HARKINS, of Colorado City, Texas, B. A. McMurry College, 1960; M. A. The Johns Hopkins University, 1962. Chemistry.  
Catalytic Hydrogenation over Iron-Nickel Alloys.
- IAN HUGH HARROP, of Baltimore, Md., B. Sc. University of Western Ontario, 1952. Physics.  
The Crystal Field of some Monoclinic Rare Earth Chlorides.
- GEORGE ROBERT HERTTEL, of Harper Woods, Mich., B. S. Michigan College of Mining and Technology, 1956; M. S. Reusselaer Polytechnic Institute, 1958. Chemistry.  
Rare Gas Ion Reactions with Polyatomic Molecules.
- STANLEY SHIPLEY HERTZBACH, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1959. Physics.  
The Experimental Determination of the Branching Ratios for the Decay of the  $\rho^0$ ,  $\omega$  and  $\phi$  Mesons into Lepton Pairs.
- PETER JOHN HIGHTON, of Slough, Bucks, England, B. A. Wadham College, Oxford, 1958. Biophysics.  
An Electromicroscopic Study of Single Polynucleotide Chains. Extension and Deposition. Visibility after Reaction with Heavy Atoms.
- YA HSUEH, of Taipei, Taiwan, Republic of China, B. S. E. National Taiwan University, 1958. Mechanics.  
Viscous Fluid Flow over a Corrugated Bottom in a Strongly Rotating System.
- CHING-HSIEN HUANG, of Taipei, Taiwan, Republic of China. Physiological Chemistry.  
Physical Properties of Thin Lipid Membranes.
- FRED NORMAN HUFFMAN, of Baltimore, Md., B. S. Lenoir Rhyne College, 1954; M. S. Vanderbilt University, 1956. Physics.  
Linear Polarization of X Radiation from a Mercury Vapor Target.
- NEIL CLAYMON HULTIN, of London, Ont., Canada, B. A. Concordia College, 1955; M. A. University of Chicago, 1957. English.  
The Rhetoric of Consolation: Studies in the Development of the Consolatio Mortis.
- STEPHEN CLINTON JETT, of Davis, Calif., B. A. Princeton University, 1960. Geography.  
Tourism in the Navajo Country: Resources and Planning.
- KENNETH HARRISON KELLER, of St. James, N. Y., A. B. Columbia University, 1956; B. S. 1957; M. S. E. The Johns Hopkins University, 1963. Chemical Engineering.  
The Steady State Transport of Oxygen in Hemoglobin Solutions.
- DONALD ALEXANDER KENNEDY, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1958. Mechanics.  
Some Measurements of the Dispersion of Spherical Particles in a Turbulent Flow.
- KIAN HOO KHO, of Bandung, Indonesia, B. Sc. University of Indonesia, 1956; M. S. Ch. E. 1957. Chemical Engineering.  
Kinetics of the Catalytic Isomerization of Normal Hydrocarbons.



- HO JING KIM, of Seoul, Korea, B. S. Seoul National University, 1957; M. A. The Johns Hopkins University, 1963. Chemistry.  
A Perturbation Approach to Molecules of Type  $MH_k$ , with the Use of the Integral Hellmann-Feynman Formula.
- JOHN WILLIAMS KNAPP, of Lexington, Va., B. S. C. E. Virginia Military Institute, 1954; M. S. E. The Johns Hopkins University, 1962. Sanitary Engineering and Water Resources.  
An Economic Study of Urban and Highway Drainage Systems.
- JOSEPH E. KRUPPA, of Houston, Texas, B. A. William Marsh Rice University, 1960; M. A. Columbia University, 1961. English.  
John Donne and the Jesuits.
- LAWRENCE HAROLD LARSEN, of Ridgewood, N. J., B. S. Stevens Institute of Technology, 1961. Mechanics.  
On Solitary and Cnoidal Waves in a Rotating Fluid.
- JAMES BENJAMIN LEAGUE, JR., of Baltimore, Md., B. S. The Johns Hopkins University, 1960; M. Ed. 1962. Education.  
Addison and Steele as Educational Realists in the *Tatler*, the *Spectator*, and the *Guardian*.
- GERALD MAURICE LEIGH, of St. Petersburg, Fla., B. C. E. Georgia Institute of Technology, 1955; M. S. S. E. 1957. Sanitary Engineering and Water Resources.  
Biochemical Oxidation Kinetics.
- LAWRENCE MARK LICHTENSTEIN, of Baltimore, Md., A. B. The University of Chicago, 1954; M. D. 1960. Microbiology.  
*In vitro* Studies of Human Allergy.
- FRANK PIERCE LINAWEAVER, JR., of Baltimore, Md., B. E. S. The Johns Hopkins University, 1955. Sanitary Engineering and Water Resources.  
Residential Water Use.
- GREGORY ROGER LOCKHEAD, of Salem, Mass., B. S. Tufts University, 1958. Psychology.  
The Effects of Dimensional Redundancy on Visual Discrimination.
- ROSS JOSEPH MACINTYRE, of Yachats, Oreg., B. S. Gonzaga University, 1960. Biology.  
Responses of Esterase 6 Alleles of *Drosophila* to Selection in Experimental Populations.
- JOHN LAWRENCE MAGNUS, JR., of Baltimore, Md., B. A. Oberlin College, 1957; M. A. T. The Johns Hopkins University, 1961. English.  
Thoreau's Poetic Cosmos and its Relation to Tradition: A Study of his Reading and his Writings, 1837-1854.
- ANDREA ERNESTO MANESCHI, of Milan, Italy, B. A. University of Oxford, 1958; Diploma in Economics 1959. Political Economy.  
Efficient Paths of Capital Accumulation and Optimum Rates of Saving.
- ARTHUR FRANCIS MAROTTI, of Baltimore, Md., A. B. Fordham University, 1961; M. A. The Johns Hopkins University, 1962. English.  
Middleton's Mature Dramas (1611-1623): A Study in Artistic Continuity.
- GEORGE AUSTIN MARZLUF, of Columbus, Ohio, B. S. Ed. The Ohio State University, 1957. Biology.  
Studies of the Mechanism of Action of the Suppressor of Vermilion of *Drosophila melanogaster*.
- SUE MCCOY, of Gordonsville, Va., A. B. Radcliffe College, 1957. Physiological Chemistry.  
The Disposition of Thyroxine- $U-C^{14}$  in Rats.
- JAMES GORDON McDOWELL, of Washington, D. C., A. B. Colgate University, 1952. History.  
The Captive Government: A Study of the Flensburg Enclave and the German Surrender in World War II: April-May, 1945.
- BYRON D. MCLEES, of Little Rock, Ark., B. S. University of Arkansas, 1958; M. S. 1960. Physiological Chemistry.  
Effects of Structure and Medium on Reactions and Magnetic Properties of Metalloporphyrins.
- CARL OWEN MEAD, of Baltimore, Md., B. S. Wheaton College, 1960. Anatomy.  
Experimental Analysis of a Specialized Zone of Nerve Cell Interaction: The Cerebellar Glomerulus.
- CHARLES GILBERT MELTON, JR., of Henderson, Ky., B. S. Wake Forest College, 1959. Biology.  
Production and Analysis of Blastular Arrest of Frog Embryos.
- JAMES WILLIAM MEYER, of Coral Gables, Fla., B. S. Antioch College, 1961. Physics.  
Nuclear Decay Processes in the Presence of a Laser Beam.
- RONALD WILLIAM MINARIK, of Baltimore, Md., B. E. S. The Johns Hopkins University, 1960. Electrical Engineering.  
Cross Relaxation between Two Electronic Spin Systems.
- ARNE MJOSUND, of Oslo, Norway, Dipl. N. H. H. The Norwegian University of Economic and Business Administration, 1951. Operations Research and Industrial Engineering.  
Optimal Literature Search.
- MICHAEL MODAN, of Tel Aviv, Israel, B. Sc. Israel Institute of Technology, 1960. Chemical Engineering.  
The Expansion and Contraction of Newtonian Jets Issuing from Short Capillary Tubes.

- GERALD CORNELIUS MONSMAN, of Towson, Md., B.A. The Johns Hopkins University, 1961; M.A. 1963. English.  
Pater's *Portraits*: A Critical Analysis of the Fiction of Walter Horatio Pater.
- DAVID WRIGHT MOODY, of Needham, Mass., A.B. Harvard University, 1960. Geography.  
Coastal Morphology and Processes in Relation to the Development of Submarine Sand Ridges off Bethany Beach, Delaware.
- CAREY ARMSTRONG MOORE, JR., of Gettysburg, Pa., A.B. Gettysburg College, 1952; B.D. The Lutheran Theological Seminary, 1956. Oriental Seminary.  
The Greek Text of *Esther*.
- SATINDER KUMAR MULLICK, of New Delhi, India, B.Sc. in M.E. Banaras Hindu University, 1958. Operations Research and Industrial Engineering.  
Optimal Design of a Stochastic System with Dominating Fixed Costs.
- SHERRY OSMOND HESSLER OLSON, of Cincinnati, Ohio, B.A. Swarthmore College, 1957; M.A. The Johns Hopkins University, 1961. Geography.  
Commerce and Conservation: The History of Railway Timber.
- RODGER DUANE PARKER, of Baltimore, Md., A.B. Drury College, 1956; M.A. Indiana University, 1960. Operations Research and Industrial Engineering.  
Applications of a Fixed Input Queue.
- DOUGLAS GRANT PEARCE, of Willowdale, Ont., Canada, B.A. University of Toronto, 1960. Psychology.  
The Measurement of Autokinetic Speed.
- WILLIAM TORSCH PLUMMER, of Baltimore, Md., B.A. The Johns Hopkins University, 1960. Physics.  
Infrared Studies of the Atmosphere of Venus.
- CHARLES CHAPMAN PUGH, of Berkeley, Calif., Mathematics.  
The Closing Lemma for Dimensions Two and Three.
- MORRIS TRAWICK REAGAN, of Hazlehurst, Miss., B.A. Southwestern at Memphis, 1959; B.S. 1960; M.A. The Johns Hopkins University, 1963. Chemistry.  
The Photolysis of Sulfonyl Azides in Isopropyl Alcohol.
- RICHARD LLOYD REGOSIN, of Hanover, N.H., A.B. Dartmouth College, 1959. Romance Languages.  
Agrippa d'Aubigné's *Les Tragiques*: Divine Tragedy and Protestant Apocalypse.
- ROBERT BRUCE REEVES, of Baltimore, Md., B.S. Eastern Nazarene College, 1961; M.A. The Johns Hopkins University, 1963. Chemistry.  
The Infrared Spectra of Silylacetylene, Methylsilylacetylene, and Solid HI.
- SAMUEL NATHAN ROSENBERG, of New York, N.Y., B.A. Columbia University, 1957. Romance Languages.  
On Modern French CE, Neuter Pronoun, in Adjectival Predication.
- HAROLD LAPIDES ROUND, of Baltimore, Md., B.A. The Johns Hopkins University, 1932. Oriental Seminary.  
The Commentary of Moses Maimonides on the Tractate SHEBITT of the Mishnah.
- GERALD MAXWELL SAIDEL, of New Haven, Conn., B. of Ch. E. Rensselaer Polytechnic Institute, 1960. Chemical Engineering.  
Chemical Reaction in the Turbulent Wake of a Cylinder.
- JUDITH ANN SANDBERG, of Philadelphia, Pa., A.B. Temple University, 1959. Biophysics.  
The Length Dependence of Phosphorylcreatine Hydrolysis during an Isometric Tetanus in the Sartorius Muscle of the Frog.
- JAMES WILLARD SAUVÉ, S.J., of Milwaukee, Wis., B.S. Spring Hill College, 1958. Mathematics.  
A Reduction of the Three Body Problem by Means of Transformation Groups.
- JOHN CHRISTIAN SCHAAKE, JR., of Baltimore, Md., B.E.S. The Johns Hopkins University, 1958. Sanitary Engineering and Water Resources.  
Synthesis of the Inlet Hydrograph.
- HANS-ULRICH SCHMINCKE, of Heiligenkirchen, Germany, M. A. The Johns Hopkins University, 1962. Geology.  
Petrology, Paleocurrents, and Stratigraphy of the Ellensburg Formation and Interbedded Yakima Basalt Flows, South-Central Washington.
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Truth guide our University  
And from all error keep her free;  
Let Wisdom yield her choicest treasure,  
And Freedom reach her fullest measure;  
Oh, let her watchword ever be  
The truth of God will make you free,  
Will make you free!

## *THE UNIVERSITY MOTTO*

*Veritas vos liberabit.*

The truth shall make you free.  
—St. John 8:32







